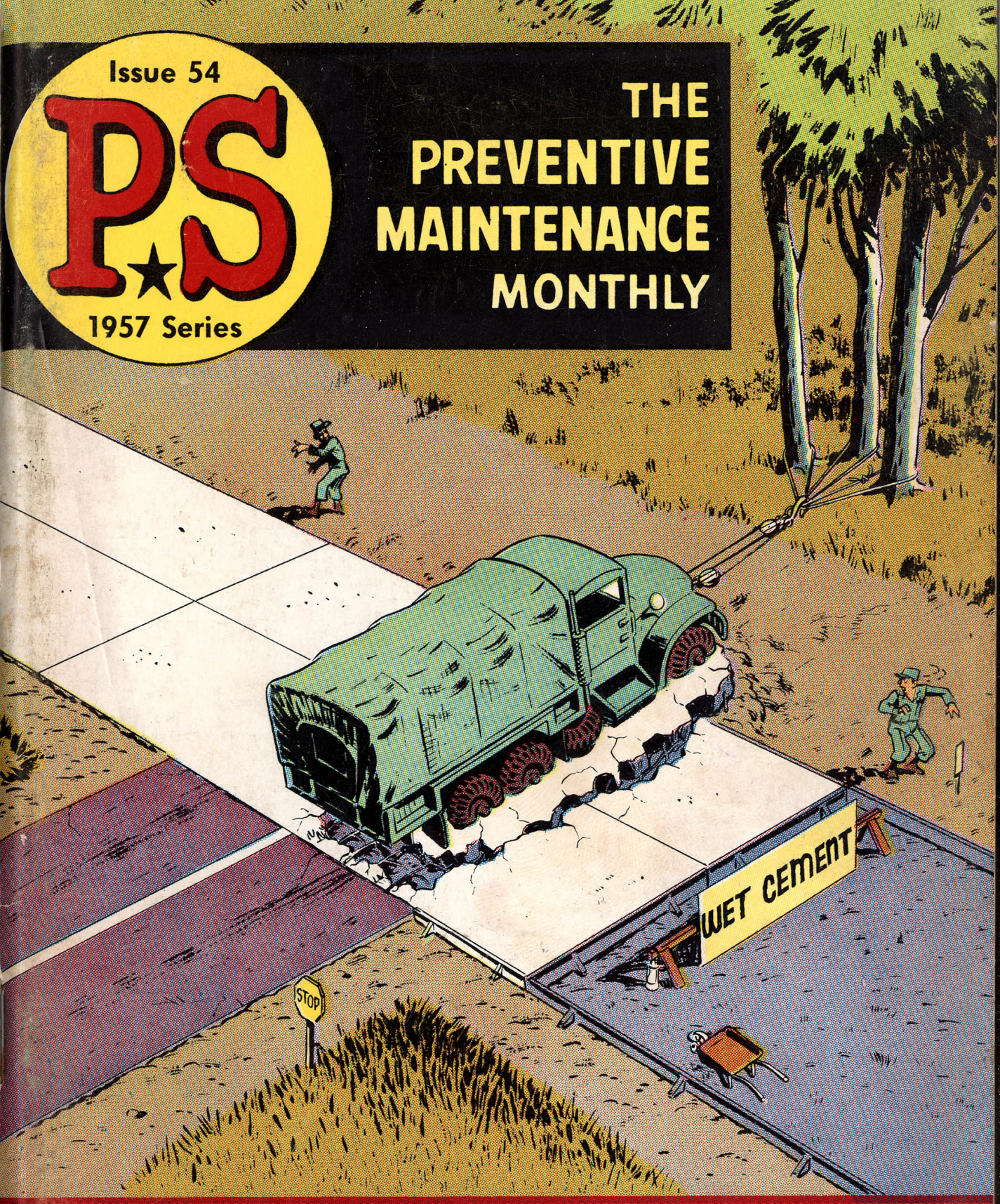
Issue 54

PS

1957 Series

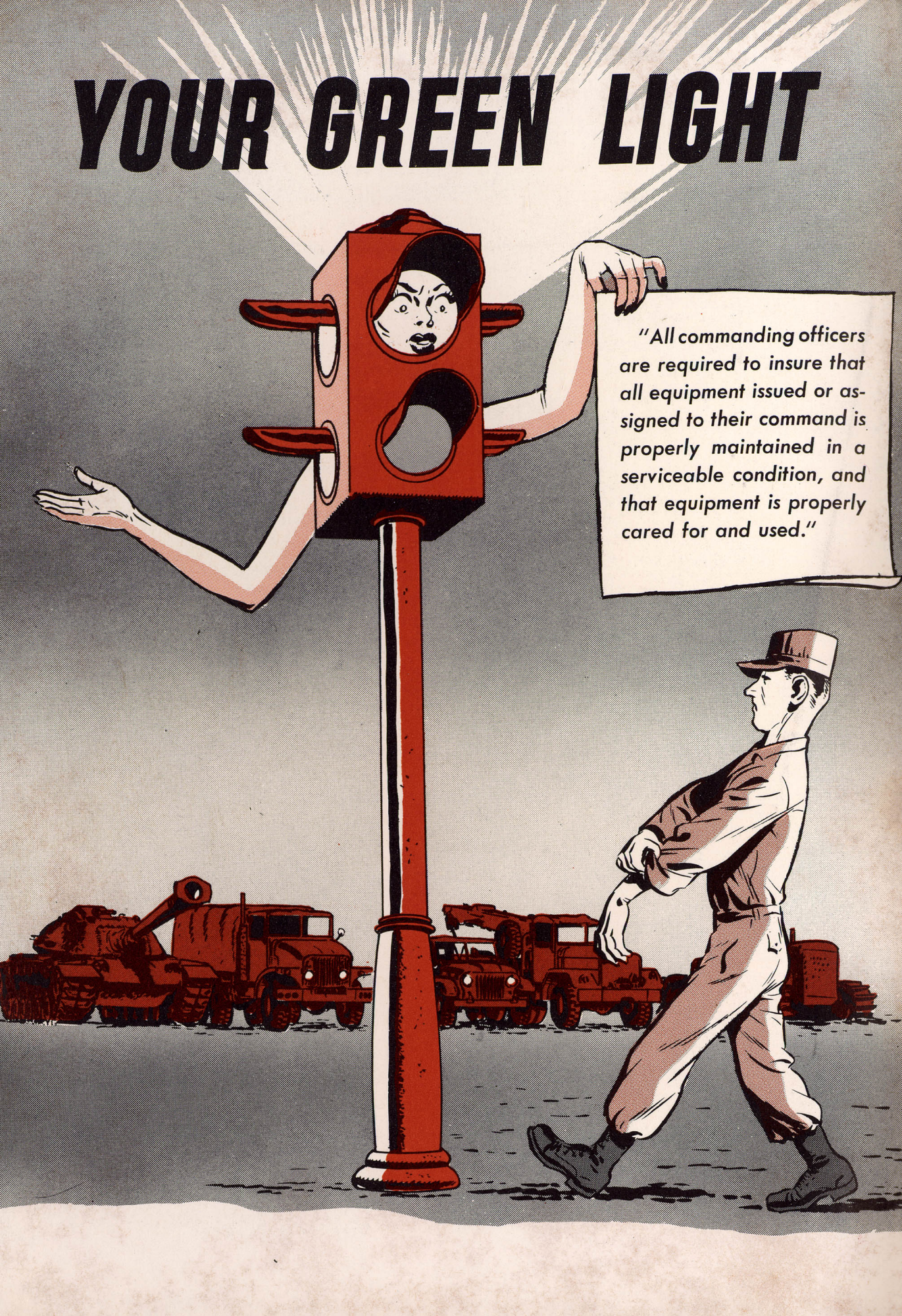
THE PREVENTIVE MAINTENANCE MONTHLY



PROPER VEHICLE RECOVERY METHODS CAN MOVE ANYTHING (almost)

Special Feature Article—see page 2

YOUR GREEN LIGHT



When it comes to preventive maintenance of equipment, there's a mighty important Army Regulation you should know about. It's AR 750-5 (23 Jan 53). There at the left is one small quote from para 9: That really gives you the green light for getting your own preventive maintenance done right and on time. And here's a way to get help in training your own men to do their maintenance right: Your technical support unit. They have officers and men with the technical know-how, and they'll be glad to lend a hand so your own men will know how to do their jobs right. How about giving it a try?

PS
THE PREVENTIVE MAINTENANCE MONTHLY

Issue No. 54 **1957 Series**

Published by the Department of the Army for the information of organizational maintenance and supply personnel. Distribution is made through normal publication channels. Within limits of availability, older issues may be obtained direct from Preventive Maintenance Agency, Raritan Arsenal, Metuchen, New Jersey.

IN THIS ISSUE

FEATURE ARTICLES

Vehicle Recovery	2
Battery Blowup	13
Tank Talk	18
Grease, Automotive & Artillery	18
Subcaliber Firing	33
Recoil Check	46

DEPARTMENTS

Connie Rodd	12
Half-Mast	29
Armament	33
Chemical	38
Quartermaster	40
Engineer	42
Contributions	46
Connie Rodd's Briefs	49

PS wants your ideas and contributions, and is glad to answer your questions. Just write to: **Sgt Half-Mast, PS, Raritan Arsenal, Metuchen, New Jersey.** Names and addresses are kept in confidence.

The printing of this publication has been approved by the Director of the Bureau of the Budget (27 Apr 56). DISTRIBUTION: ACTIVE ARMY: DCSPER; ACSI; DCSOPS; DCSLOG; ACSRC; CAMG; COA; CARROTC; COFF; CINFO; TIG; JAG; CLL; CMH; CNGB; COFSPWAR; Tec Svc, DA; Admin & Tec Svc Bd; Hq CONARC; OS Maj Comd; OS Base Comd; MDW; Armies; Corps; Div; Brig; Regt/Gp; Bn; Co; Ft & Cp; Gen & Br Svc Sch; USMA; Joint Sch; Specialist Sch; PMST Sr Div Units; PMST Mil Sch Div Units; PMST Jr Div Units; Gen Depots; Sup Sec, Gen Depots; Depots; Ord Tk Autmv Comd; AH; US Army Tng Cen; Sandia Base, AFSWP; Trans Terminal Comd; Army Terminal; OS Sup Agencies; POE (OS); PG; Arsenals; CMLCMATCOM; DB; Engr Maint Cen; Cruit Main Sta; Div Engr; Dist Engr NG; State AG Special List. USAR: Mil Dist Special List. For explanation of abbreviations used see SR 320-50-1.

When your vehicle's stuck,
Just ask yourself—have you

GOT ANY PULL?

Here's the round-up on what to do, when and how to get that bogged-down equipment on the go.

Ne'mind your politics... let's talk about vehicle recovery. When you've got a buggy with her wheels in the air, or differential deep in mud, you've got to have pull, and you've got to know how to use it.

You get your pull, naturally, from a recovery vehicle or wrecker if you have one. Or, you may have to depend on a truck's front winch, or even resort to towing with a chain from your pintle hook.

But, there's a lot more to recovering a vehicle than just having a way to pull. Sometimes you can't get near it, on accounta mud or on accounta it has fallen off a hill or been run out into a rice paddy. Other times you find one on its side or clear over. Before you can tow it away, you've got to get it right side up.

RIG IT

This is where you fall back on brains and your rigging. Webster says rigging is tackle and gear, specifically cables and blocks. Right-oh, that's what we're talking about here. With enough blocks and cables, and something to fasten to, your wrecker or recovery vehicle can move darn near anything that's loose at both ends. But you've got to know how to rig the gear.

Let's start with the cable. The cable, or wire rope, is the means by which you apply the force of your winch or tow vehicle to the load. Let's go on and consider the block.

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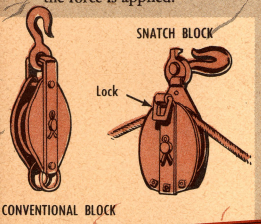
A block is fundamentally a device for changing the direction of force. It does this by changing the direction of the cable along which the force is applied.



There are two major types of block, the simple or conventional type, which requires the cable to be passed through it like threading a needle, and the "snatch block" on which the shell opens up to accept the cable.

There's one fine thing about blocks and cables: you use the blocks to change the direction of forces. When you have two or more forces pulling in parallel, they add up, and your end result is equal to the sum of the forces—less a little for friction in the blocks. This lets you set up tackles which will give you what is called a "mechanical advantage."

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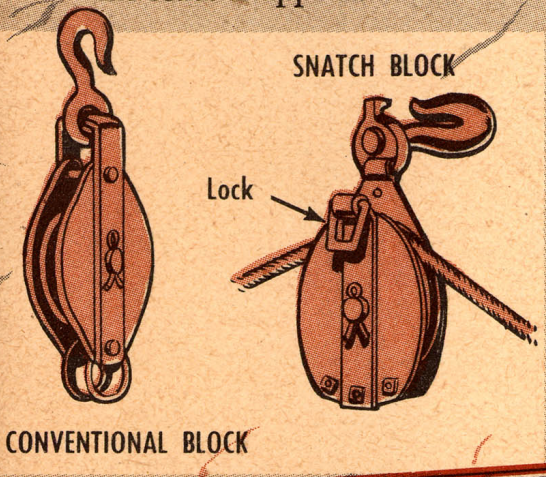

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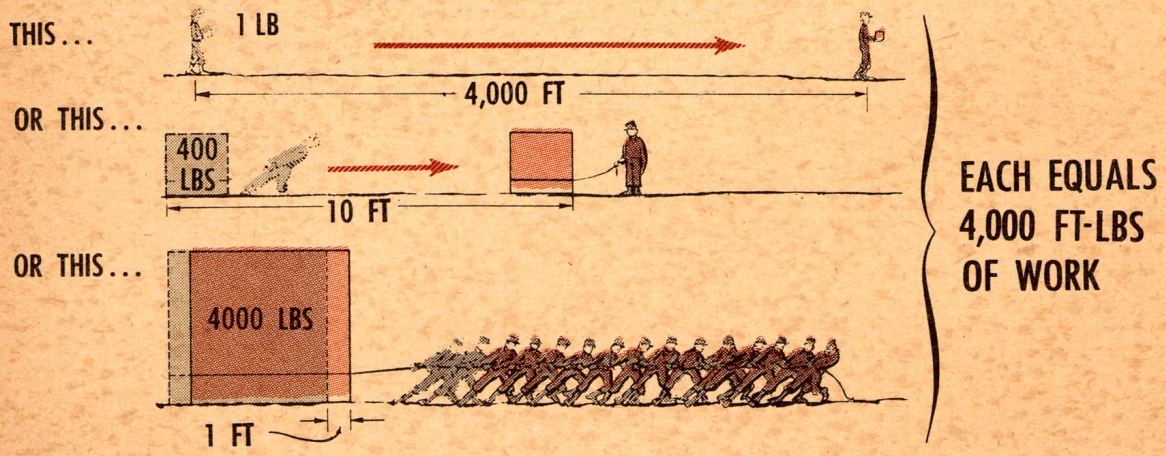
YOUR ADVANTAGE

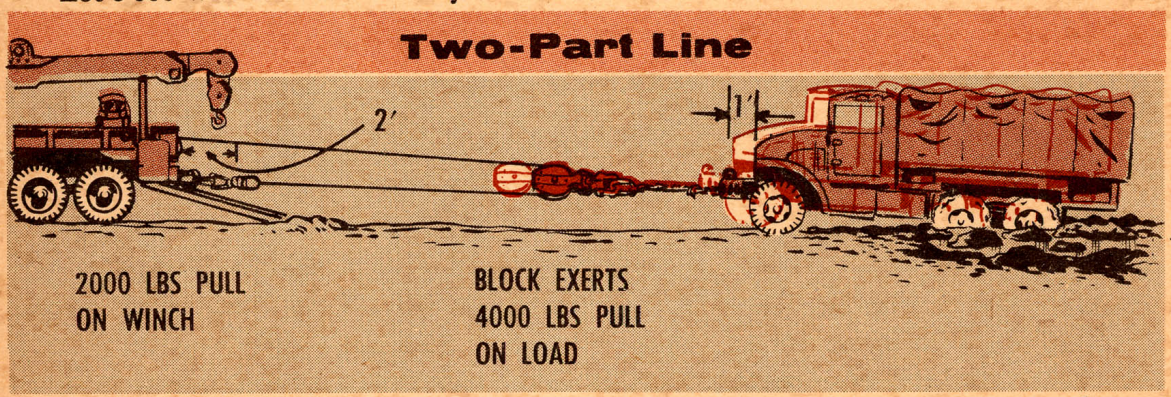
Let's see what this does for you, remembering that the work (force times distance) done at one end of the system is equal to the work done at the other end of the system. (These illustrations exclude the small amount of work required to overcome the friction of the sheave against its mounting pin.) Work, you see, is defined as a force applied over a distance. It is frequently expressed in foot-pounds.



So, you can see that the work required to move a small load over a great distance can equal the work required to move a great load over a small distance. The mechanical advantage you can set up with your blocks will let you harness the small force to a great load and by appropriate rigging you can move the great load.

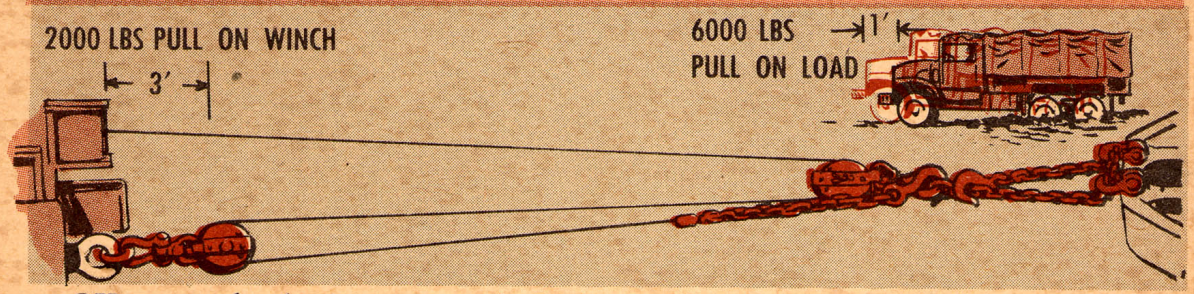
The simplest mechanical advantage you can set up is the two-part line. All you do here is attach a snatch block to the load and return the winch line to the towing vehicle.

Let's see what this does for you.



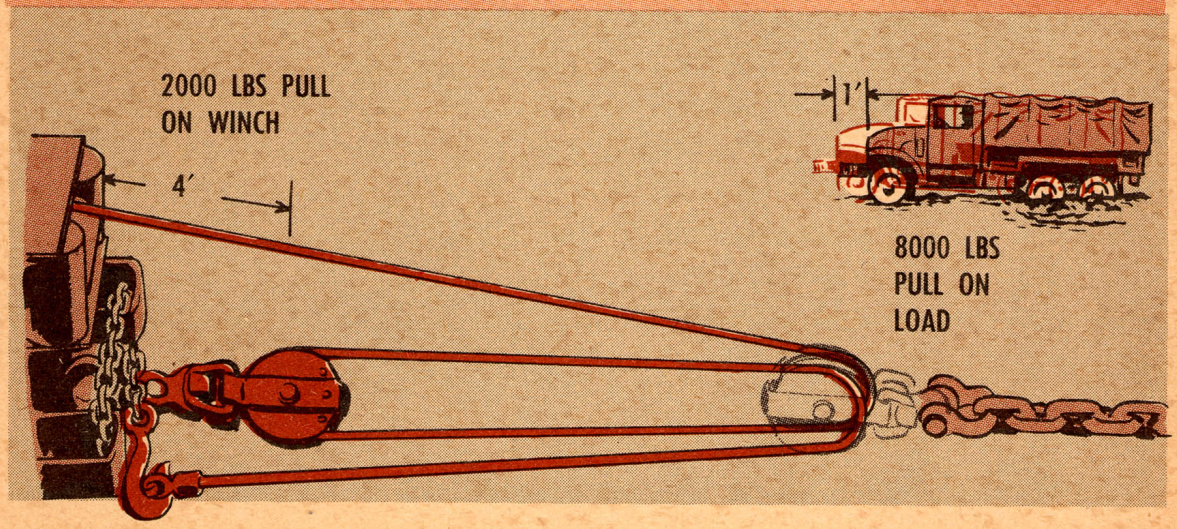
As you reel in your winch line two feet, the snatch block comes towards you one foot. But, if you have a 2000-pound pull on the winch line, the snatch block will exert 4000 pounds of pull on the load. See, 2000 pounds times 2 feet = 4000 foot-pounds, 4000 pounds times 1 foot = 4000 foot-pounds.

Three-Part Line



OK, so maybe that's not enough. Let's see what else you can do. The next logical step would be a three-part line. In this case you use one snatch-block at the load and another at your wrecker. You run your cable down to the first snatch block on the load, back up to the second snatch block on the wrecker, then take the hook down to the load and secure it.

Four-Part Line



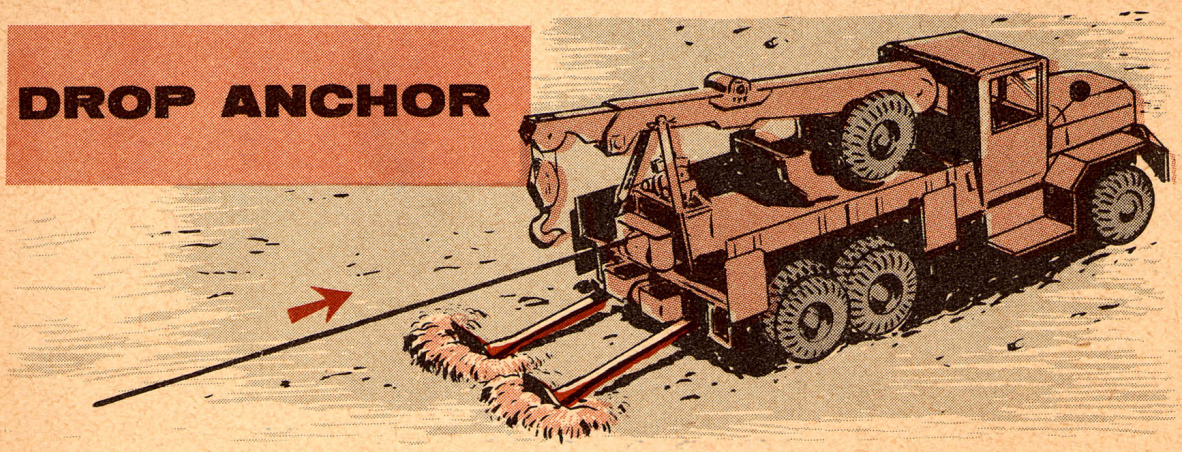
Now we can look at the big hitch, the four-part line. For this one you use the double sheave snatch block at the load and a single sheave block at the wrecker.

Your line goes from the winch to one sheave of the double block, back to the single block at the wrecker, down again to the other sheave of the double block at the load, and finally back to secure on the wrecker.

These hookups are your basic tools for recovery. By and large, they'll give you plenty of pull to recover any wheeled vehicle with your M62 (or any track with your M74.)

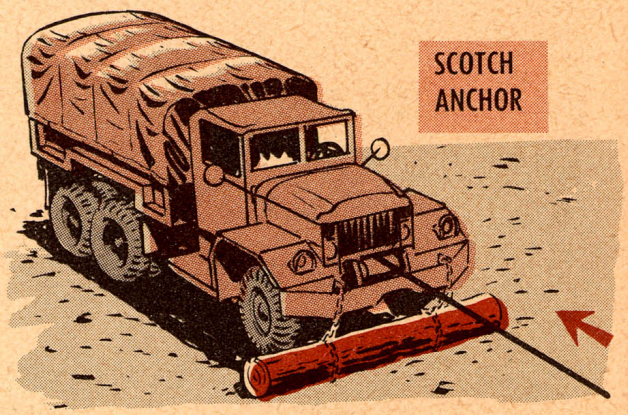
Now, there's one thing wrong with all the hookups you've seen so far; they all put the same pull on the wrecker as they do on the wreck. So, if your wrecker is standing on top of a muddy road, while your load is bogged to the axles, chances are it'll be the wrecker that moves, not the load. And sliding the wrecker down into the mudhole just means that two of you won't make it back for chow.

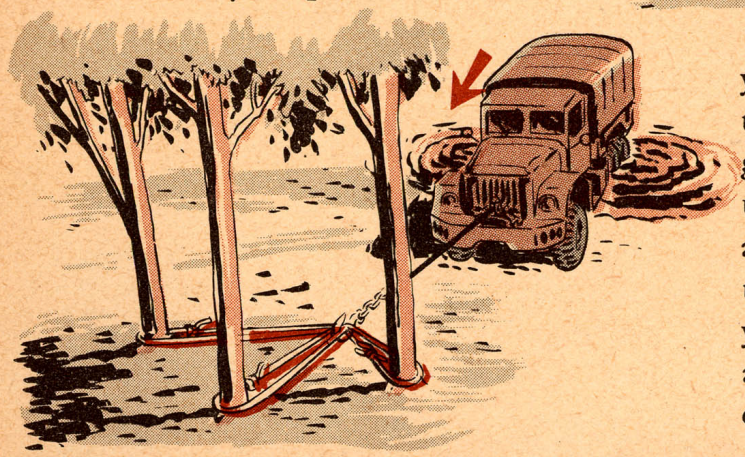
DROP ANCHOR



So what can you do? Depends on where you are and how badly your load is bogged. First of all you set the electric brake lock on your wrecker, like it tells you in TM 9-8028. This'll lock all your wheels. You rig the ground spades, if any, of course. Then, you can put chocks, rocks or logs behind your wheels.

There's a trick called a "Scotch anchor" which is a log in front of your front wheels that's chained to the bumper of the truck. The whole business has to slide along the road. If there's a tree handy, you can run your front winch cable out and tie onto it. (Or, if you're using the front winch on a regular truck for the recovery, back up to the tree and chain your pintle hook to it).

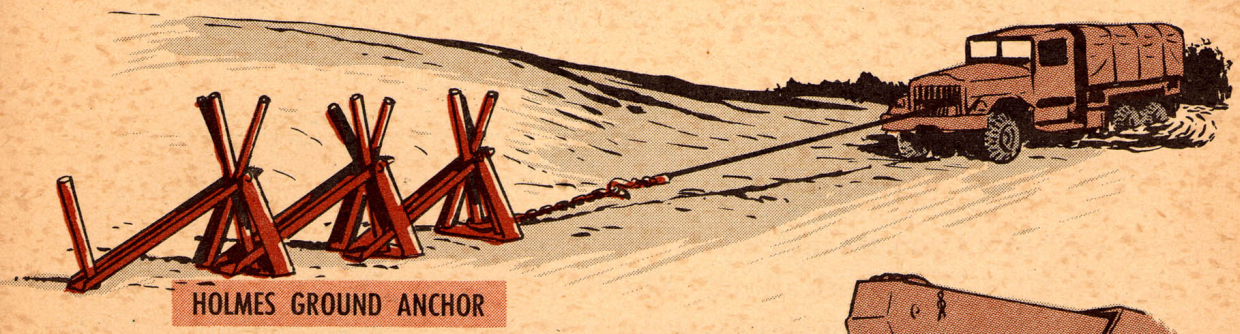




This is fine, if and when you've got lots of big healthy trees around. If you've only got little trees, it's possible to use a bunch of them by looping a rope or cable around 'em at the base and bringing that to your tow vehicle. Be sure you adjust the rope so the pull is even on all the trees.

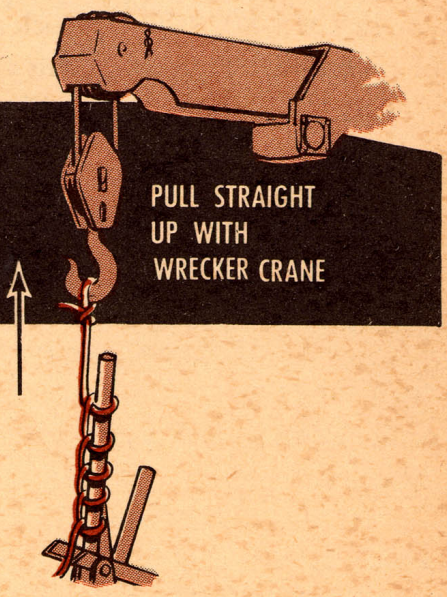
CAREFUL: Any time you hitch a line to a tree, get it down as close to the ground as possible. The tree'll stand a greater pull that way.

Yeah, fine, but what to do when you've got no trees? First of all, your wrecker OVM includes the Holmes ground anchor. This is a set of steel pins and attachments. You drive the pins into the ground through the attachments to get something to pull from. As you see, you can set as many of the pins or pickets in the ground as you need to hold your load. Drive the pins well in and when you come to take them out, strike 'em crossways **at the ground level** to loosen them.



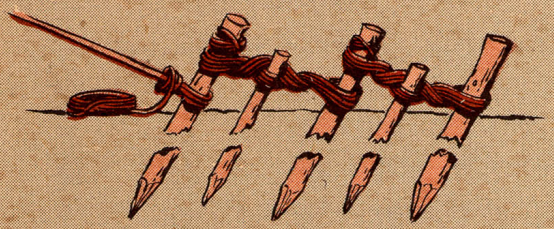
HOLMES GROUND ANCHOR

CAREFUL: Don't hit these pins sideways at the top ends; you'll bend 'em sure. If you can't get 'em out any other way, use your wrecker crane, one pin at a time.

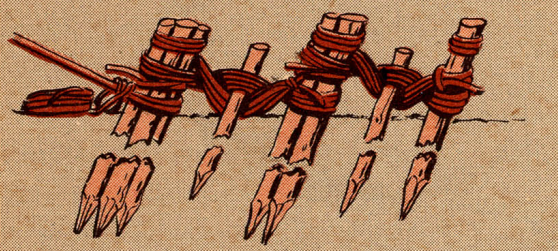


PULL STRAIGHT UP WITH WRECKER CRANE

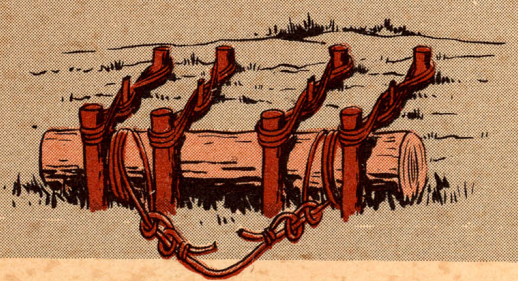
PICKET HOLD-FAST



COMBINATION PICKET HOLD-FAST



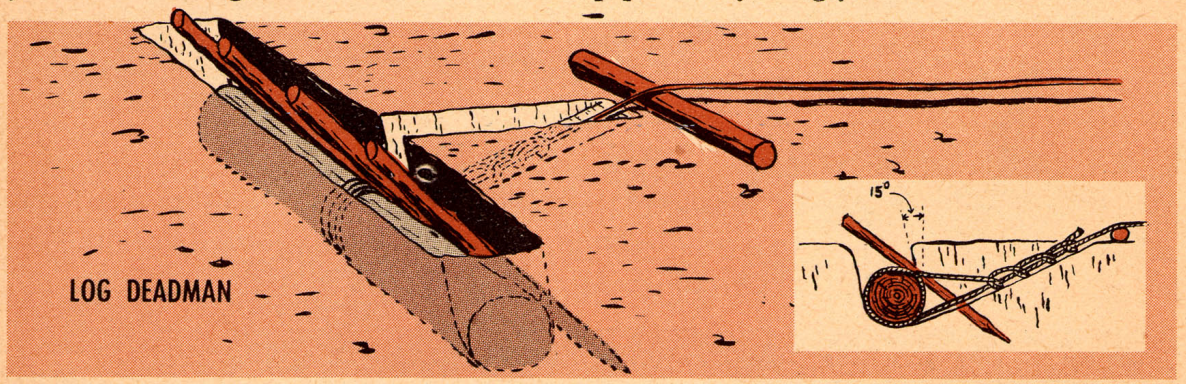
COMBINATION LOG PICKET HOLD-FAST



If you don't have a Holmes anchor, you can cut wooden pickets . . . from the best wood you can find. Use ash if you can get it, about 3 feet long and about 3 inches in diameter. You can drive these in sets of three or more, tying the top of one to the bottom of the next with loops of rope, and then twisting these loops up tight, with lighter stakes, which you drive into the ground to keep from untwisting.

DRAG MEANS PULL

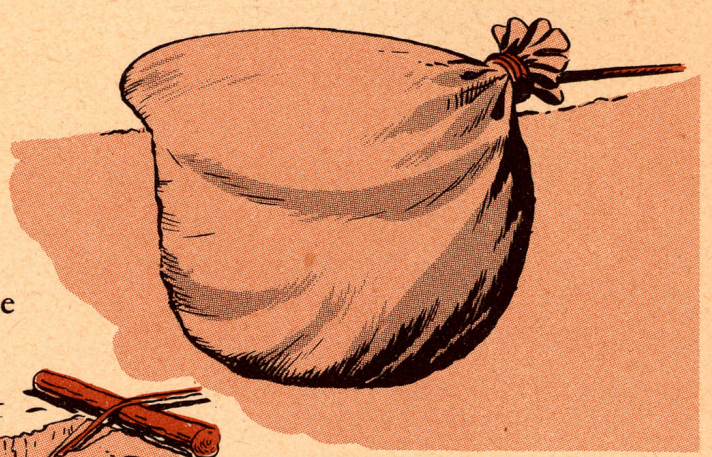
Now, if you can't find suitable timber to cut pickets, you can dig in a "deadman." The simplest of these is a log. Ditch it in well, with the side of your ditch nearest the load slanted away from the pull. Stake the log down, if possible, and lay a small log under your cable. If you haven't a log, a steel beam or hunk of pipe or anything you can find will serve.

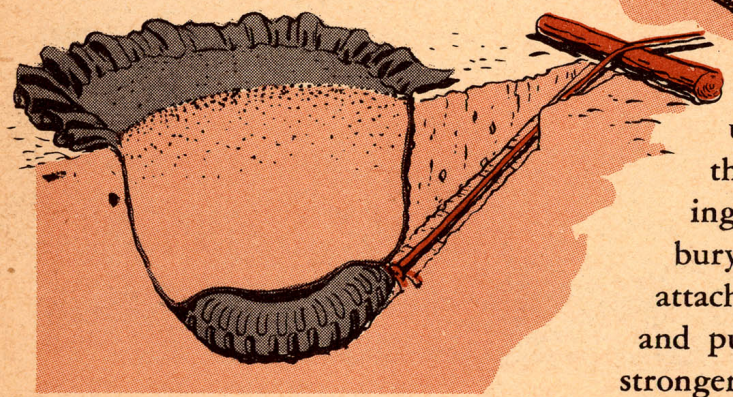


When you start to dig in a deadman, don't be lazy; it's easier to dig it in good and deep the first time instead of digging it in again after it pulls out. Another thing, when digging the "T" trench for the cable, remember that the longer and deeper you dig it, the straighter the pull on the deadman, and the more it will hold; 4-to-1 is pretty good. In other words, if you've dug your log down five feet, ditch the cable for 20 feet.

The only trouble is, a deadman won't hold in soft sand. So, you gotta use something else.

One of the best tricks is what's called a "sand parachute." All you do is dig a whoppin' big hole and line it with a tarpaulin—use the one on the stuck truck if you haven't any other. Then you fill the hole up again and tie the corners of the tarp together, that's your holding point. If you want, you can bury a spare wheel with the cable attached in the bottom of the hole and put the tarp on top of that for stronger hold.

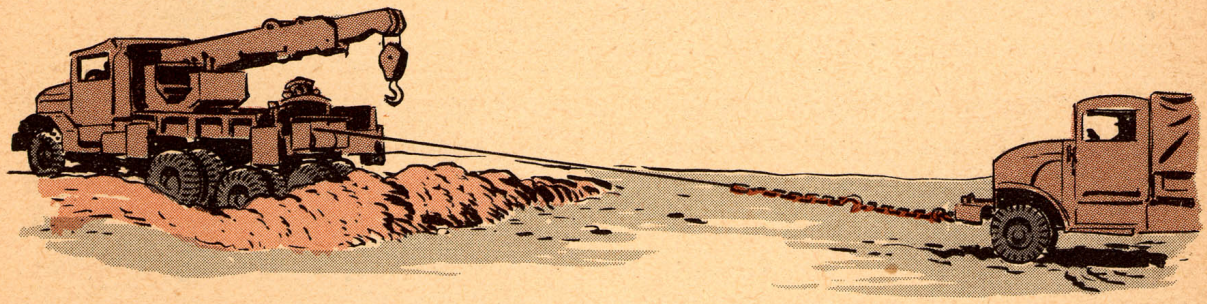




Here're a couple of tricks you can use in the woods.

Another trick you can use if you've got the stuff is to park one or more trucks —or a tank—crossways to your pull and rig a bridle from the towing eye to the pintle hook. Then chain to the bridle with your wrecker.

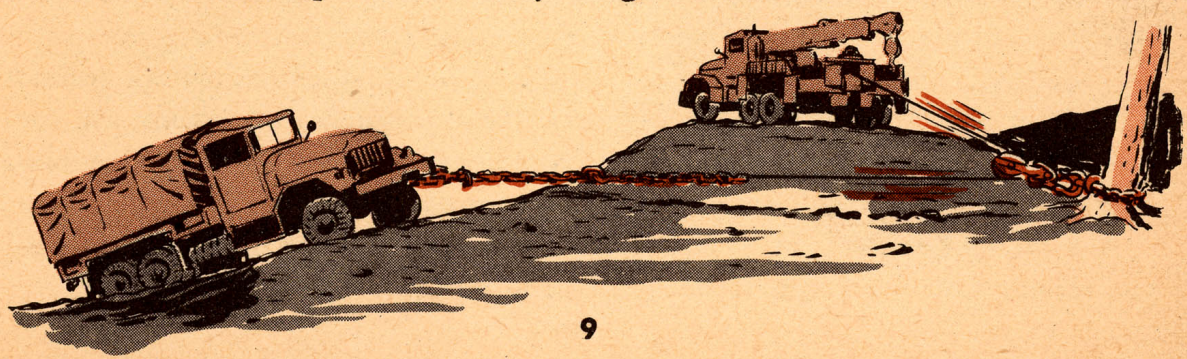
If your stuck vehicle is in mud but you can get a pull on it from hard dry ground, you can always dig in your wrecker wheels to hold you. Leave a straight bank in behind and an easy ramp in front so you can back in and drive out OK. Best you don't dig in on a road, however.



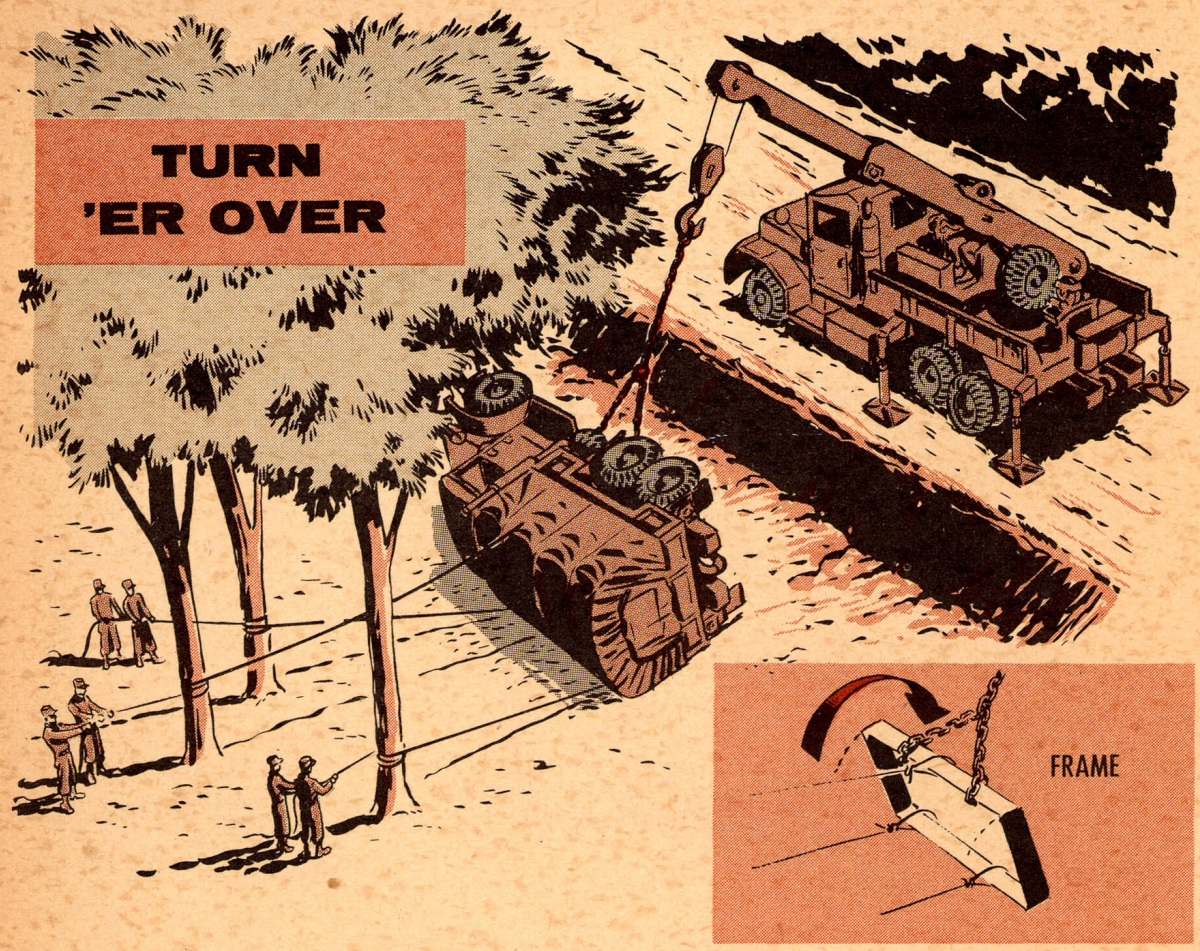
SHOOTING THE ANGLES

Everything we've talked about up to now has taken for granted that you could position your tow truck in such a way as to pull the wreck straight towards you. Sometimes you can't, like when you're on a narrow mountain road, or a causeway, etc.

In such a case, you can use any of these hookups, and any of the ground anchors. One or more blocks will enable you to change the direction of your pull. So, you line your blocks and anchor up in the direction you want to move the wreck, then hook another snatch block to the ground anchor and lead your winch line off to wherever you can locate your wrecker. If necessary, you can bend that fall line around a couple of corners by using two snatch blocks.



TURN 'ER OVER



OK, so much for straight pulls. Now leave us consider wha hoppen when things really get out of hand, and your wreck ends up with its wheels in the air. Nine times outa ten your easiest way to recover it, with a minimum of additional damage, is to turn it right side up first and then pull it out.

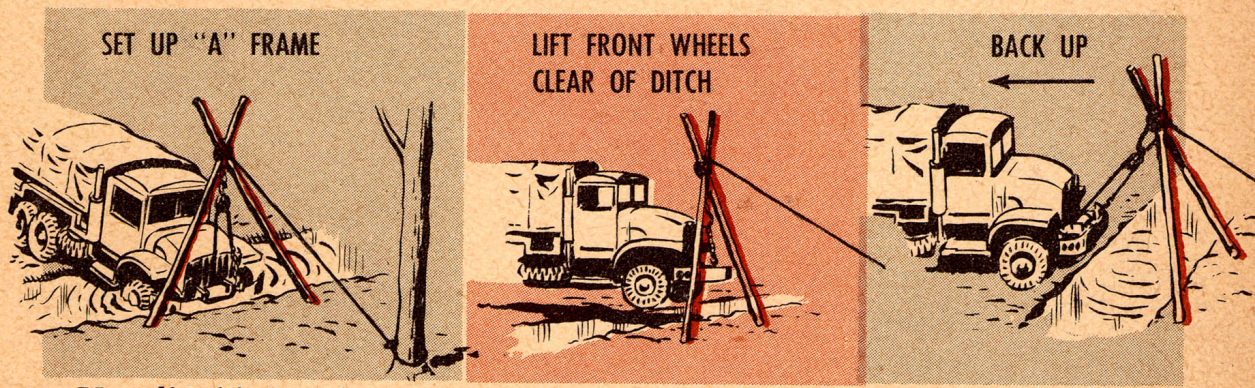
You've gotta apply force enough to roll it back over, but you don't want to tear it up when you do it. So, you have to see where you can hitch on safely. Generally this is the frame. If your wreck is clear over, you run your chain across and attach it to the frame member **away** from your tow truck. You've got another thing to consider. When you start your pull to right your wreck, you want it to roll over, not just slide toward the tow truck. If it's in soft enough ground it may do this OK, but if it's on hard ground you may have to figure a way to hold it while it rolls. The easiest stunt is to run holding lines from the pintle hook or frame and towing eyes to trees, or stakes, or any holding device.

Then you need one more rigging, a snubbing line to hold your wreck when it starts over and keep it from falling hard on its wheels and mebby on your cables. This can be a front winch cable from another vehicle, or a rope snubbed around a tree. Just be sure it's strong enough for the job.

Any time when the load on your crane exceeds the figures on your cab chart, you set out your outriggers to be sure you won't tip or upset your wrecker.

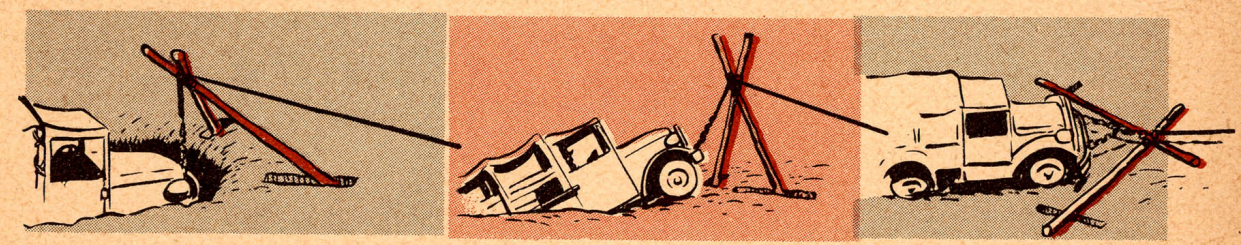
TAKE THE A-FRAME

You sometimes find vehicles stuck in such a way that you can't get 'em out with any kind of a pull without tearing 'em up. Like f'rinstance a truck with its front wheels in a slit trench. This is no problem to your M62, if you've got solid ground to drive up on. You just lift the front end out of the trench with the crane and drive off. But if you can't get to the trench with a wrecker, or if you haven't got a wrecker, there are a couple of other tricks you can use. First you need a couple of good stout poles. Six inches around or better, and 8 or 10 feet long. OK, if the stuck truck's engine can be run, and if it has a winch, you can make it lift itself out of the trench. You lash the two poles into an "A" frame. It's best to use rope for this lashing; failing that, use your tow chain. Rig a snatch block at the joint.



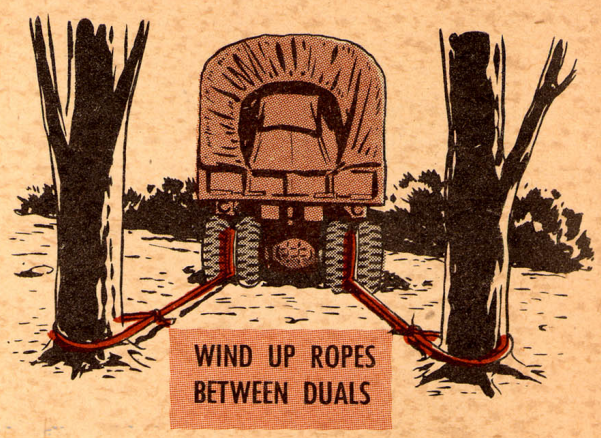
You dig this "A" frame, (shear legs, riggers call 'em) into the ground right in front of your front bumper. Now, you see, by hooking your winch cable through the block and back to the bumper you can take in on your winch until the front wheels are lifted clear of the ditch. Then you back the truck up, letting the shear legs tilt as you go. (A light snubbing line will help you keep 'em from smashing down on your hood and cab.) As soon as you have the front end away from the trench, you cast loose the cable and back on out.

Fine, but what if your stuck truck has no winch, or has a dead engine? Well, you still need a shear leg, but this time you set it out aways ahead of the truck and use the cable of your tow truck. As you can see, the shear legs tip over as you pull, lifting the front end up and then falling out of the way.



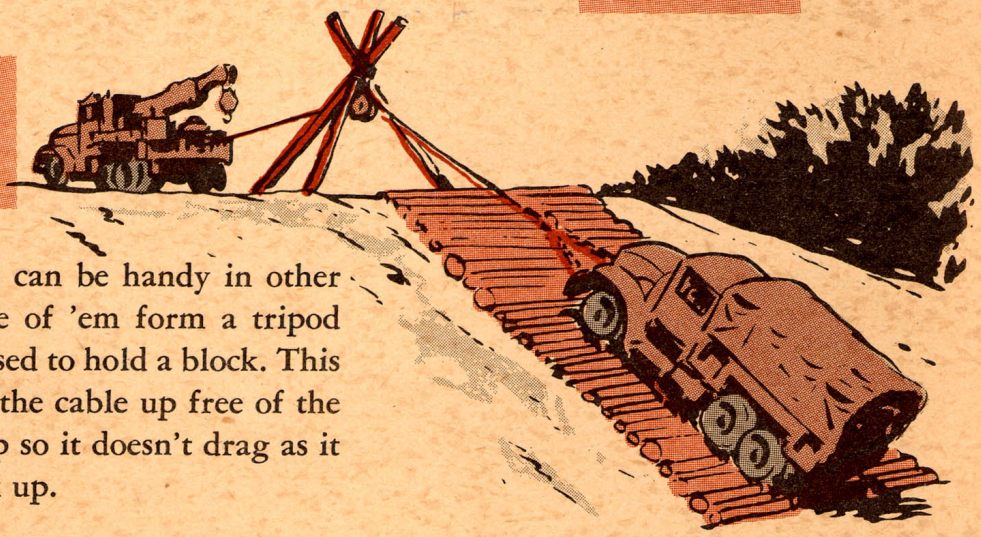
This same trick can be done by the truck itself, if equipped with a front winch, by digging in an anchor for a block and running the truck's winch cable out to the block, then back over the shear legs to the truck's bumper.

Or, still another trick, you can run ropes from any ground anchors (trees if there are any) to the rear wheels of the truck. Fasten the ropes to the wheels so they will wind up between the duals as you run the truck in reverse. Watch this, too much rope between the wheels can pop your lug bolts.



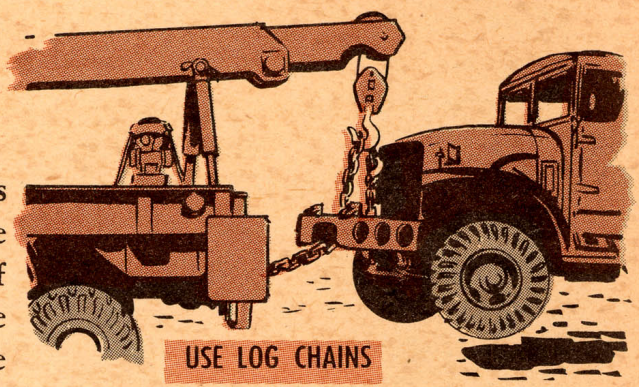
WIND UP ROPES BETWEEN DUALS

TRIPOD HOLDS ROPE FREE FROM RAMP



Lashed poles can be handy in other ways too, three of 'em form a tripod which can be used to hold a block. This one is holding the cable up free of the top of the ramp so it doesn't drag as it pulls the wreck up.

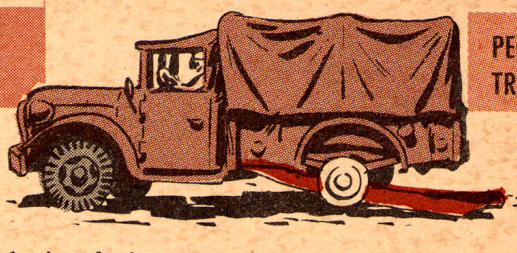
"KOREA" HITCH



USE LOG CHAINS

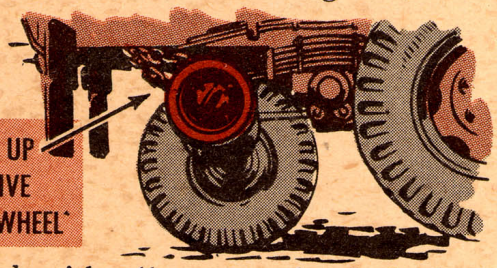
Here's a quickie hitch the boys worked out pullin' in trucks during the action in Korea. All you use is a pair of log chains. One of 'em goes around the bumper of the wreck and then to the pintle hook of the wrecker. The other one goes around the bumper of the wreck and up to your crane hook. You'll find that by lifting and crowding your boom you can hold the truck off the ground and at the same time hold it far enough back that it won't overrun your wrecker. Fact is, you can back it up into place if you have to, just like a semi-trailer. This hitch is not as safe as the towbar, and you shouldn't use it in peacetime. But, comes a time you have to hook up fast and run 'cause some bugger's shooting at you, remember this one.

SLEIGH RIDE



PEG-LEG TRUCK

A pole can be used to "Peg-Leg" a ¾-ton or ¼-ton truck which has a smashed rear wheel. When you have chained the pole in place you engage the front wheel drive and can go on, slowly, to where you can get repairs.



CHAIN UP DEFECTIVE REAR WHEEL

And with a 2½-ton, or any 6x6 truck, you can chain up any one defective rear wheel and drive on to Ordnance. Just call me "Stumpy." You jack the bum wheel and then run chains to the frame.

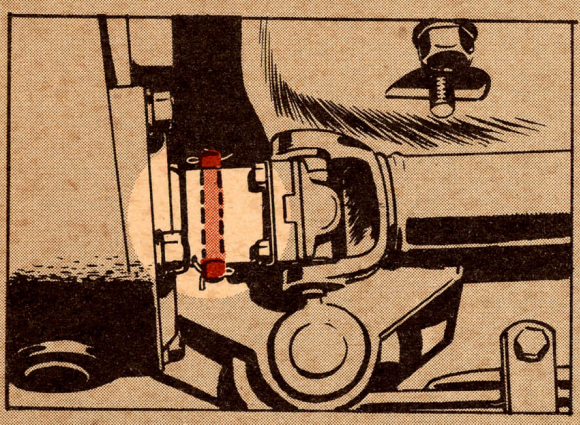
And with all our mechanical gimmicks, don't forget that in real stinking going, it's hard to beat 15-20 men pulling on a rope—if you've got the men! Even here there's a right way and a wrong way. Keep your men all on the same side of the line and keep the slack out from under their feet.

HARD TO BEAT 15-20 MEN

Well, you can't become a boss rigger overnight, and there'll always be some situation you haven't seen before, but by mixing these ideas with your own good sense, you oughta be able to bring your chickens home.

WINCH PINS

HOLD IT! Never use anything but the proper shear pins in your winches. Putting stronger bolts in the shear pin holes is as stupid as putting a penny behind a fuse, and it's a thousand times more dangerous. A broken cable flying back at you can easily mean a messy job for the GRS boys, washing you off the truck. Use these pins ONLY:



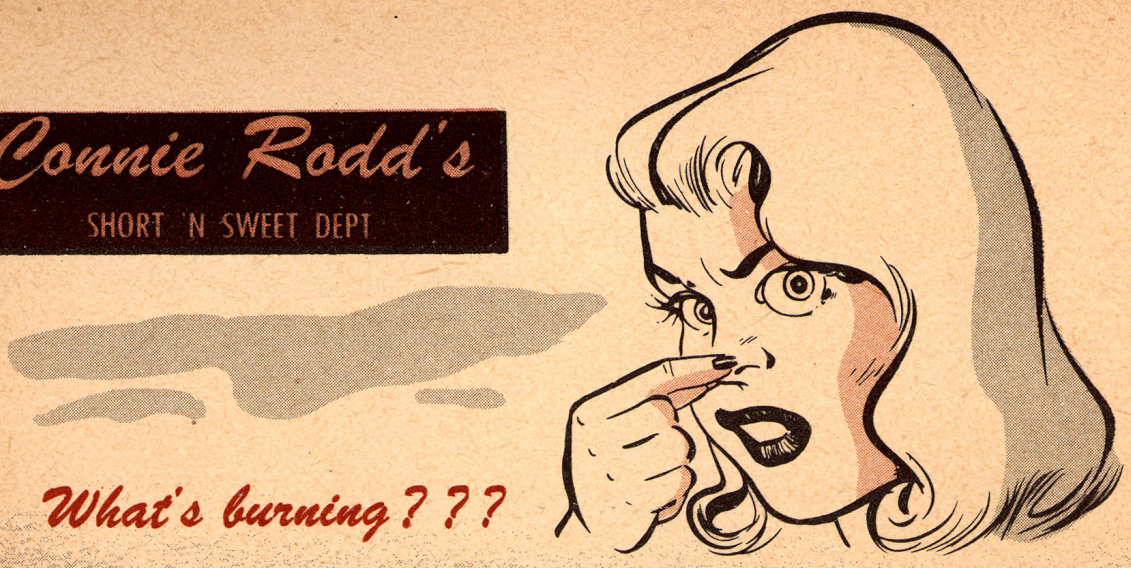
All 2½-ton trucks, use pin G742-7368685, (FSN 5315-736-8685). This is the new aluminum pin that superseded pin G742-7538740.

M62 Wrecker, front winch, use pin G744-7409348, (FSN 5315-740-9348).

M62 Wrecker, rear winch, use pin G744-8330478, (FSN 5315-282-2583). And nothing else, y'hear?

Connie Rodd's

SHORT 'N SWEET DEPT

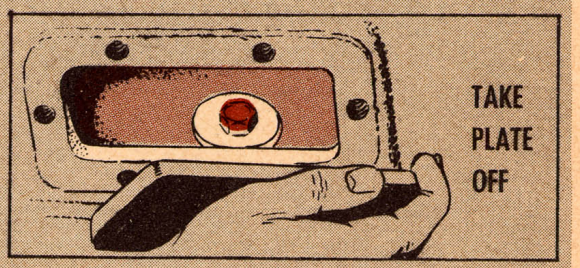


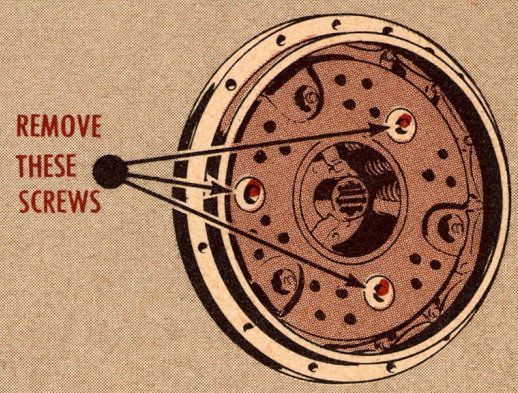
What's burning???

If you've got your tootsie on the accelerator pedal of a G744-series 5-ton truck that's just had its clutch rebuilt or a new clutch put in, hot-foot that clockner away and read this.

Word has it that on some trucks the three-clutch retaining cap-screws were left in. These screws hold the pressure plate partially collapsed against the clutch disc, so Ordnance would have an easier job of installing the clutch. But once the clutch is in, those screws have to come out or the clutch'll start slipping before you know it.

So, before you sput another mile, take off the clutch inspection plate. If you spot three bolt heads peering out at you from the face of the pressure plate housing, get 'em out of there fast—just like it says in TM 9-8028 (June 55).





Loose oil pump tubes

Take a long and careful look at your G744 series 5-ton truck's oil pressure gage—and keep keeping your eye on it. A low pressure may tip you off to a bug in your engine.

There've been some cases of the oil pump tube coming loose. When this happens your engine gets no oil from the oil pan. Keep driving and before too long you'll need a new engine.

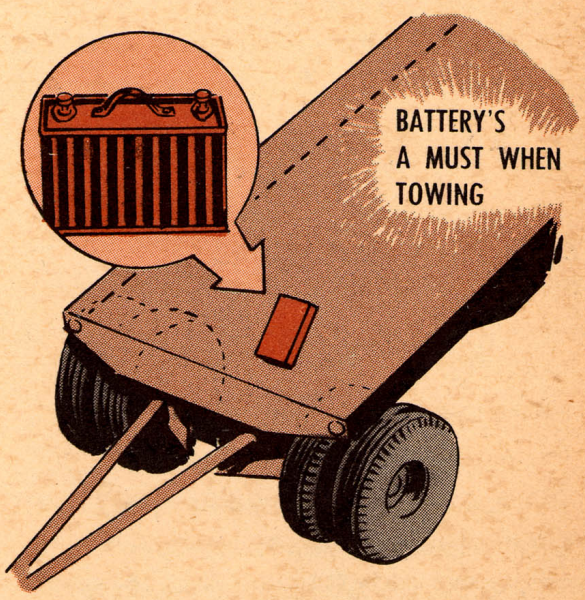
If you find that your oil pressure stays below normal, which is 15 PSI when your engine's idling, take your truck back to Ordnance and have them check out that tube. All it may need is a good tightening.

The 'hot shot'

You may think you're a real "hot shot" 'til some one steals your best girl, but take the "hot shot" I've got in mind and it'll prove it's got what it takes. It's the "hot shot" 6-volt battery used with all the 2-ton and 2½-ton, 4-wheel trailers associated with the AAFS and Nike systems that are equipped with a 6-volt electrical brake system, SNL G789.

If this little battery (FSN-6135-050-0916) is not returned to the battery box and reconnected into the emergency brake circuit after a semi-permanent encampment, etc., you may find your trailer wandering around in a gulley or in the field some place.

The reason the "hot shot" battery is hooked up into the brake system is to supply the juice which'll stop the trailer should it break loose from its prime mover. Make sure ya get the "hot shot" battery in place before you tow your trailer.

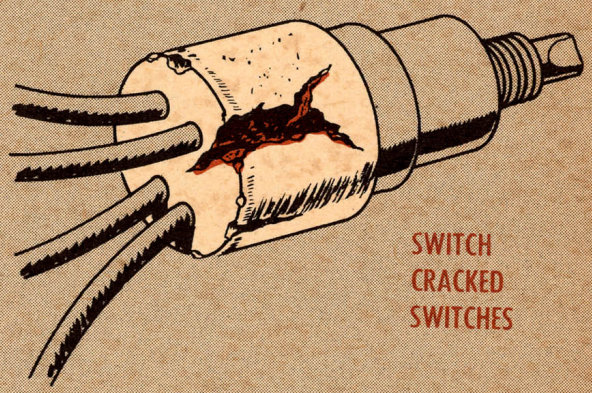


Crackin' up??

All you M-series tactical wheeled vehicle drivers and mechanics'll have to keep ye ol' weather eye peeled for trouble on switch, ignition, w/cables, assembly (Ord Stock No. G742-7760409).

Seems like the resin substance which surrounds the electrical contacts is crackin' wide open and just askin' for trouble. When moisture follows its little trail through these cracks it'll do a good iob of short circuitin' the unit.

You can well imagine what 24 volts of juice can do when it starts to short out... it sure raises havoc with everything and it is even possible you may **lose your hack**. Keep an eagle eye on these little gadgets and if you see any cracks at all, no matter how small, get TB Ord 634 (23 Mar 56). It tells you when and how to make a thorough examination and the dope on replacing the switches.



Battery blow-up

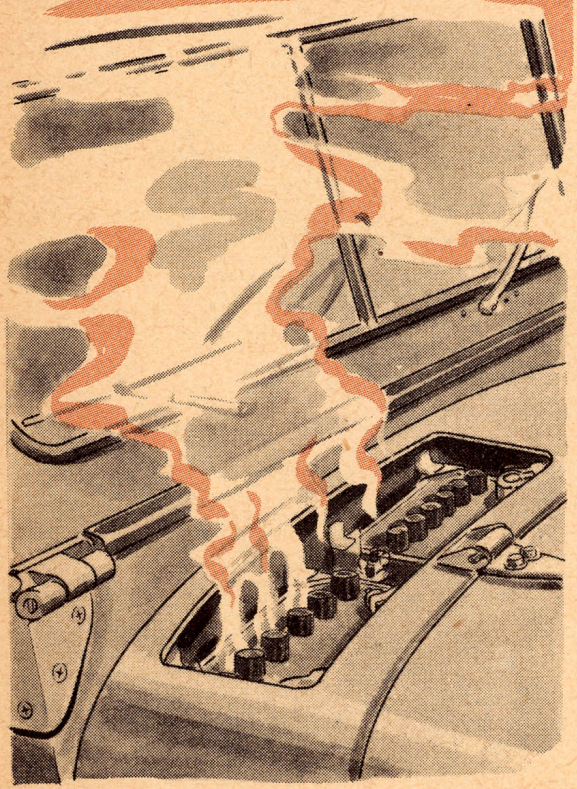
Hear all those low, baffling whispers? They're being p-s-s-s-s-t-e-d by those guys who have been troubled by bulging and exploding batteries.

These are the guys who try to act like college profs. They're coming up with the queerest theories in the world why their batteries goofed. Funny part about the whole thing is that the answers are right there—real simple.

HERE'S WHY BATTERIES EXPLODE:

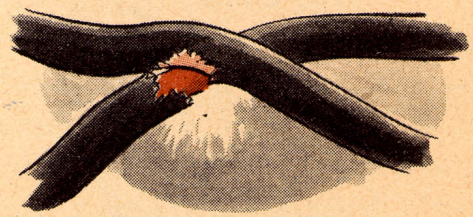
Hydrogen gas is given off by the battery when it's being charged or discharged.

You have some of it floating around most of the time, even when the battery's not being used. Give that hydrogen some fire, like spark, and you've got an explosion.

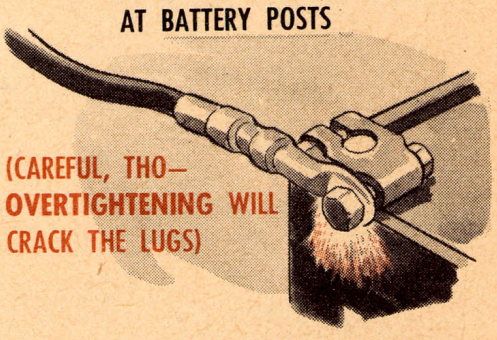


A SPARK AROUND YOUR BATTERY CAN BE CAUSED BY...

SHORT CIRCUIT IN BATTERY CABLES

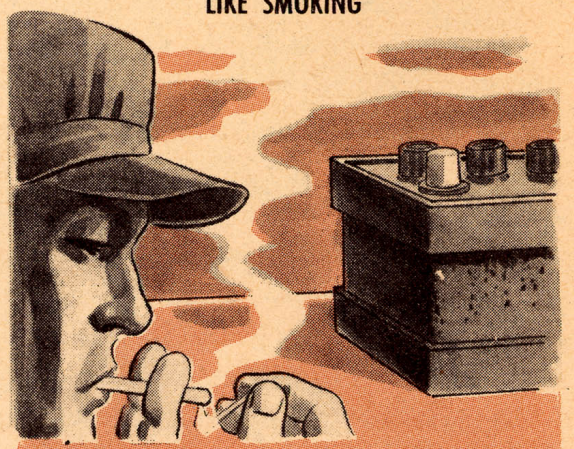


LOOSE CONNECTIONS AT BATTERY POSTS



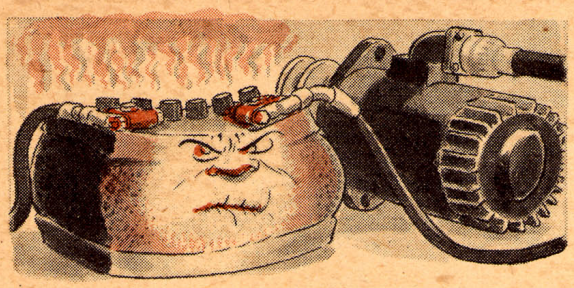
(CAREFUL, THO— **OVERTIGHTENING** WILL CRACK THE LUGS)

CARELESSNESS— LIKE SMOKING



All you have to do before you have exploding battery trouble is to find that short or tighten that connection—and never get careless.

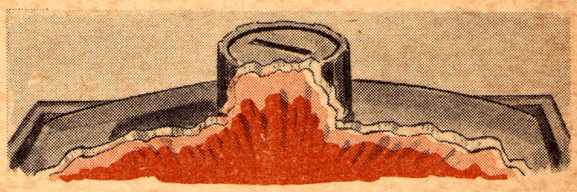
Now, a bulging battery is something else. There are a few reasons for it.



First, a battery can bulge if your voltage regulator is set too high. You see, as the generator keeps pouring out charge, the batteries overcharge and heat up. Result? They get to look like a bloated glutton.

Another thing that'll cause a battery to bulge is running that battery when its electrolyte level is below the top of the plates. The plate will corrode and swell.

Letting the specific gravity of a battery run down in freezing temperatures can also make a battery bulge.

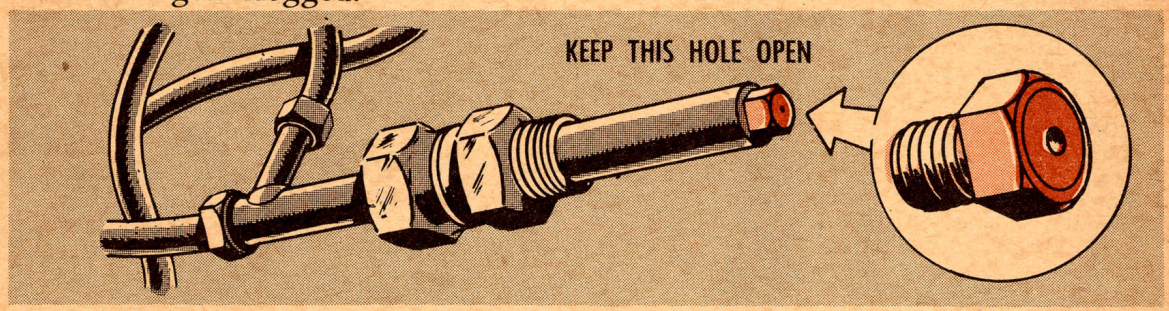


One other reason is clogged up vents in the battery caps. That causes excess pressure to build up inside and eventually the battery gives.

Nozzle not nozzling?

Priming your tanks on a cold day is no easy trick, 'specially if the nozzle primer assembly gets clogged up. This nozzle (Ord Stock No. G262-7410158) is found in almost all tracked vehicles that have a Continental AV-1790, AOS-895 or AO-895 engine.

At the tip of the nozzle assembly is another smaller unit. It's called Nozzle, assembly primer spiral spray, (Ord Stock No. G262-7410285). This is the little rascal that gets clogged.



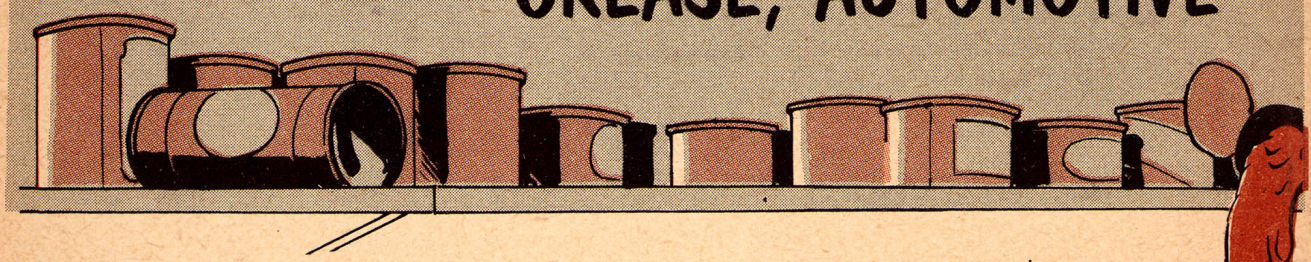
You don't get to repair your nozzle because it's a mighty delicate operation that requires special tools. But you do remove the nozzle assembly real carefully so's not to bend or damage it in any way. Then send it back to your Ordnance support.

Ordnance will put a new spray nozzle assembly back into the nozzle primer assembly. They will soon be able to get the spray nozzle assembly because it's now an authorized item of issue.

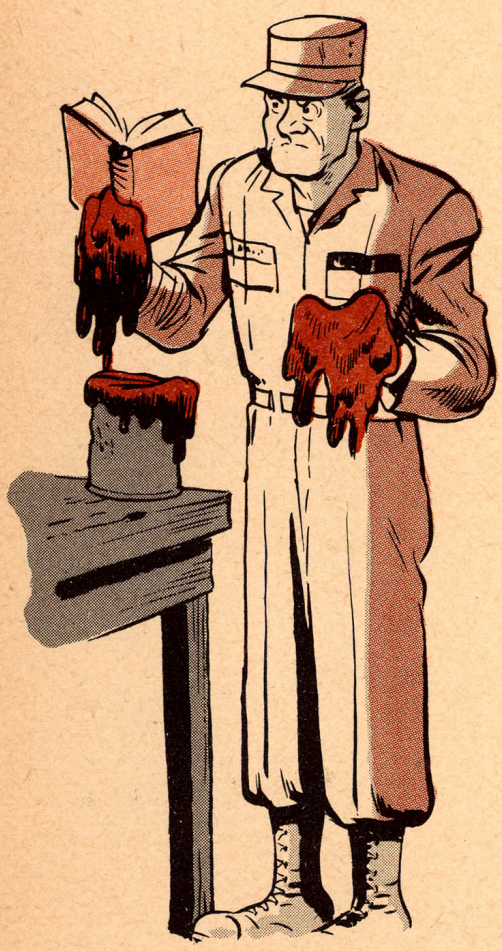
And when installing that primer nozzle use anti-seize compound (FSN 8030-251-3983) or something like it so it'll be easy to take out.

Here's the scoop on —

GREASE, AUTOMOTIVE

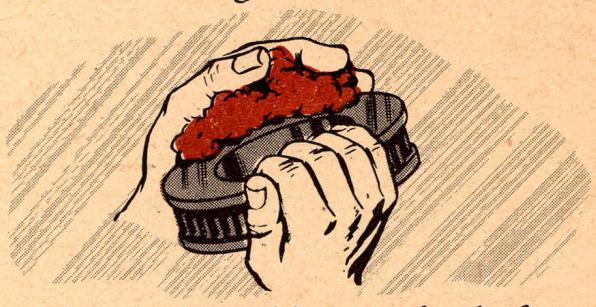


Every time something new hits the field, there's always a lot of wondering, head scratching and problems. GAA (Amendment 3) is no different, so let's talk about it and its two older brothers, GAA (Amendments 1 and 2).



First, the old stuff, GAA 1, is used *only* as a chassis grease, like SB 725-9150-1 (12 Aug 55) says. In other words, never use it in places like wheel bearings, bogies and CV joints. GAA 1 doesn't mix with other greases—not even GAA 2 or 3. There's still plenty of GAA 1 in the QM warehouses, so when you requisition a chassis grease, this is what you may get.

As far as GAA 2 (or 3) goes, you can use it as both a chassis grease and in places like wheel bearings, bogies and CV joints. But, when it comes to wheel bearings and wheel hubs, you've gotta be mighty careful. Follow this dope when applying GAA 2 (or 3) to those hubs and bearings —



If you're using this grease for the first time, make sure all that old grease is cleaned out by washing the bearings in dry cleaning solvent. GAA 2 and 3 aren't compatible with other types of grease. Before greasing the bearing with GAA 2 (or 3), clean all that solvent from the bearing.

When it comes to the hubs, use only a thin smear of grease — about 1/16

Here's the scoop on —

GREASE, AUTOMOTIVE AND ARTILLERY (GAA)

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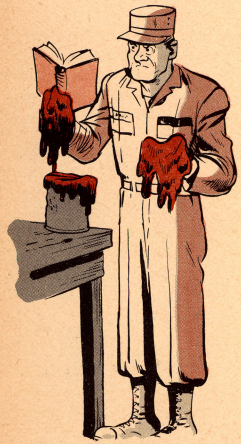

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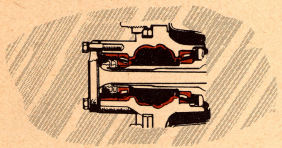
When it comes to the hubs, use only a thin smear of grease — about 1/16 inch. In other words, don't pack 'em to the bearing races. The only reason you use that thin smear is to help stop rust from forming inside your hubs.

If you're using GAA 2 (or 3) in bearings and hubs, you might spot check those bearings every *D* (6000-mile) service. Just look at 'em and make sure they're well lubed and will stand up until the D_2 service.



It may be that when you open a can of GAA you'll find some oil floating on top of the grease. If so, pour this oil off before you start using the grease . . . never mix it into the grease.

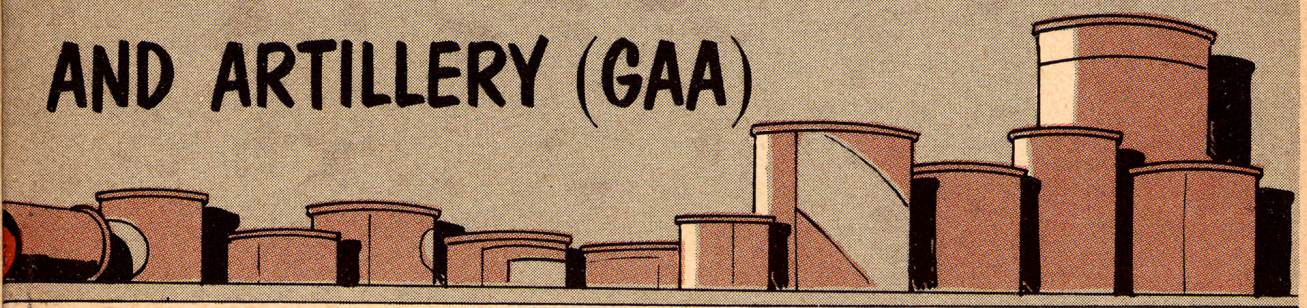
If anything goes wrong, get off those UER's to the Quartermaster General, Department of the Army, Washington 25, D. C., and to the Chief of the technical service whose equipment is involved.

If you can, tag and keep the ruined parts. Hold them until you hear from these people as to where to send them. If they want them, they'll let you know.

Make those UER's as complete as possible. Tell the full story. For example, if you put GAA 3 into a bearing that was formerly greased with GAA 2 and the bearing goes bad or the grease breaks down, tell 'em about mixing the grease. If you find grit or bits of metal in the grease, write this into your UER, also. Tell 'em you're holding the parts.

GAA 3 can be mixed with GAA 2, but that's all. When you get this new grease and aren't sure whether there's GAA 2 or some other grease in your truck, play it safe and clean out all the old grease before putting in the new.

AND ARTILLERY (GAA)



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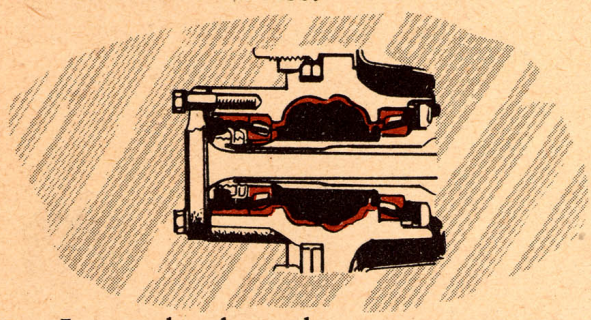

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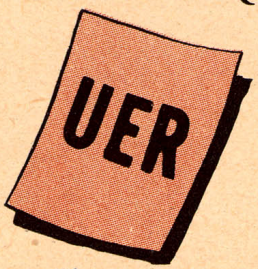

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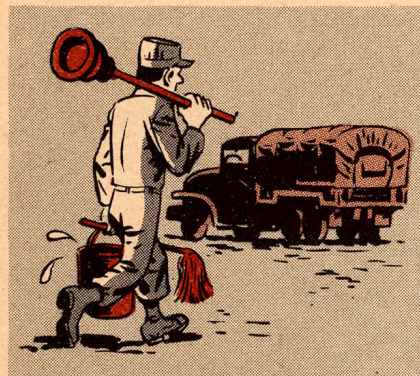

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Paint Pyrotechnics

A ½-Act Play

The Story:

Once there was a tank. Its crew wanted to keep it looking brand new. They painted here and they painted there. They even removed the auxiliary engine ground strap 7992783 and painted that part of the hull, too.

Later, they laid down their brushes and hooked up everything again. Only now there was a fresh layer of paint 'twixt ground strap and hull. Result: No ground!

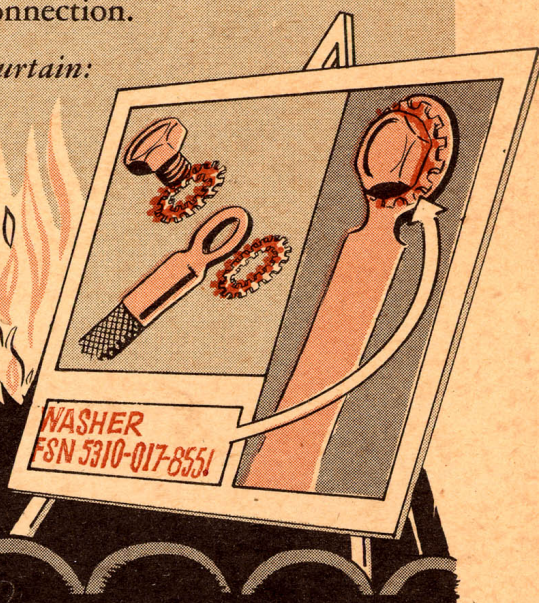
So what was the ground between the auxiliary engine and hull? The fuel line! An explosive situation. And that's what happened one stormy night. The fuel line got too hot (especially that braided wire reinforcement). Sparks began to fly. Fumes ignited.

There was a nice hot fire. Exit tank and crew.

The moral:

Make sure fresh paint doesn't come between ground strap and hull. Just slip a ⅜-inch inner-outer tooth washer 178551 on each side of the ground strap. Those washer teeth will chop right through the paint on the hull terminal point and make that connection.

Curtain:

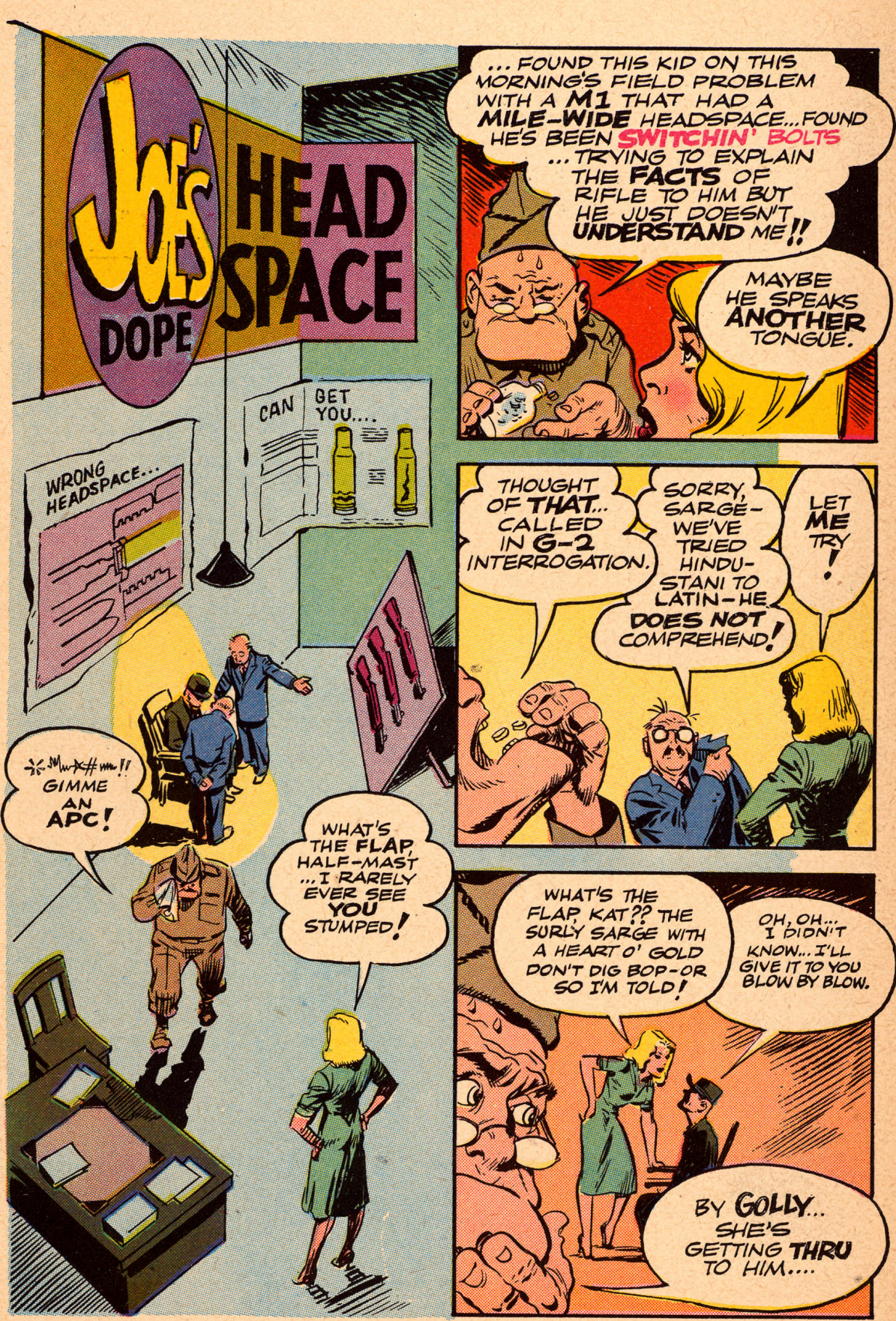


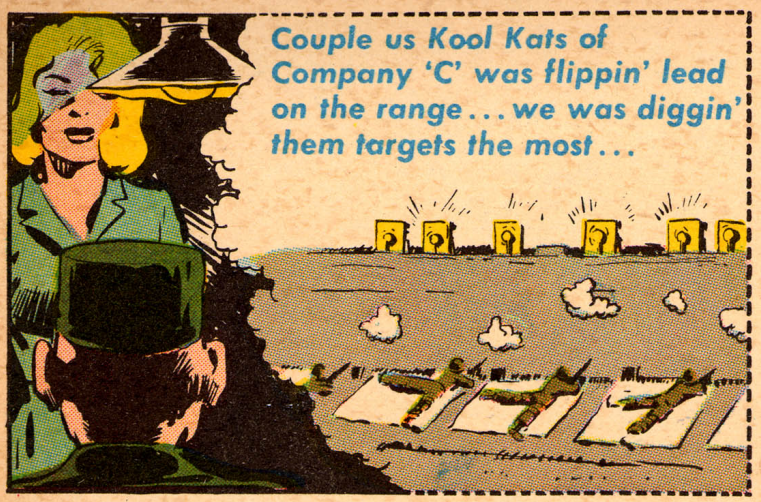
Encore:

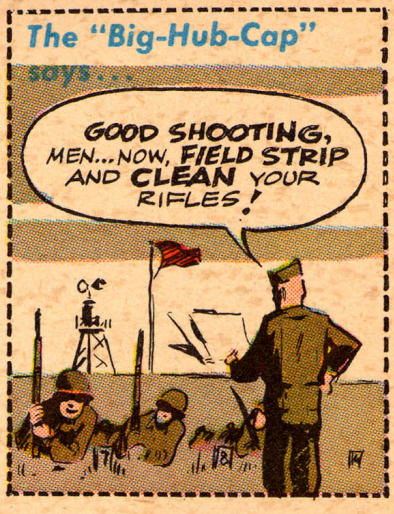
While the auxiliary engine is removed, tape the exposed ends of the power feed harness.

Cast: (Track vehicles affected)

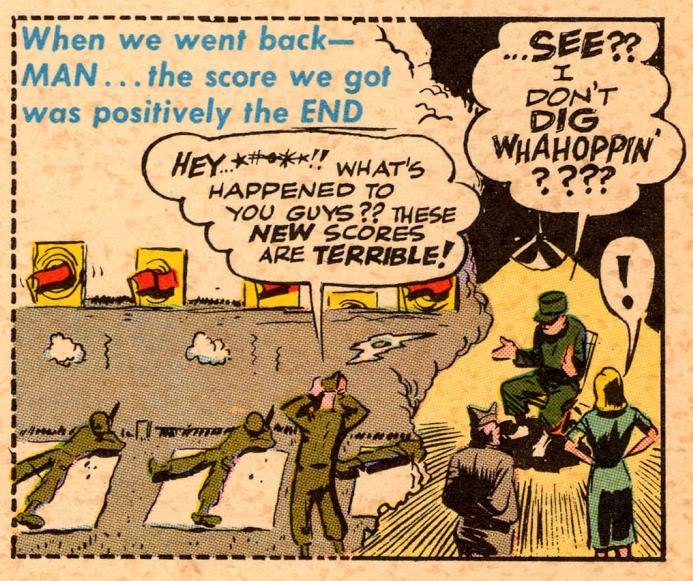
M48, M48A1, M48A2, M53, M55, M51, M41, M41A1, M42, M44 and M75.


JOE'S DOPE
HEAD SPACE
WRONG HEADSPACE...
CAN GET YOU....
...FOUND THIS KID ON THIS MORNING'S FIELD PROBLEM WITH A M1 THAT HAD A MILE-WIDE HEADSPACE...FOUND HE'S BEEN SWITCHIN' BOLTS ...TRYING TO EXPLAIN THE FACTS OF RIFLE TO HIM BUT HE JUST DOESN'T UNDERSTAND ME!!
MAYBE HE SPEAKS ANOTHER TONGUE.
THOUGHT OF THAT... CALLED IN G-2 INTERROGATION.
SORRY, SARGE- WE'VE TRIED HINDU-STANI TO LATIN-HE DOES NOT COMPREHEND!
LET ME TRY!
GIMME AN APC!
WHAT'S THE FLAP, HALF-MAST ...I RARELY EVER SEE YOU STUMPED!
WHAT'S THE FLAP, KAT?? THE SURLY SARGE WITH A HEART O' GOLD DON'T DIG BOP-OR SO I'M TOLD!
OH, OH... I DIDN'T KNOW... I'LL GIVE IT TO YOU BLOW BY BLOW.
BY GOLLY... SHE'S GETTING THRU TO HIM....

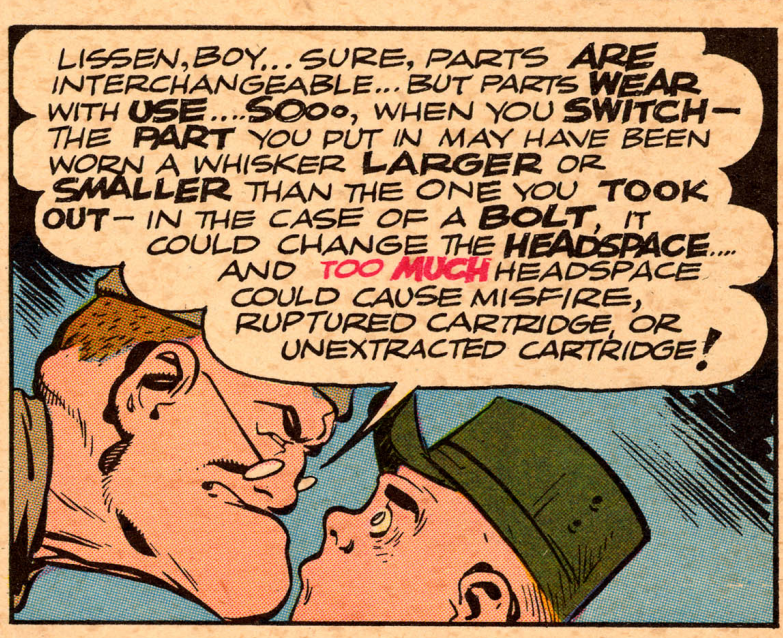

Couple us Kool Kats of Company 'C' was flippin' lead on the range... we was diggin' them targets the most...

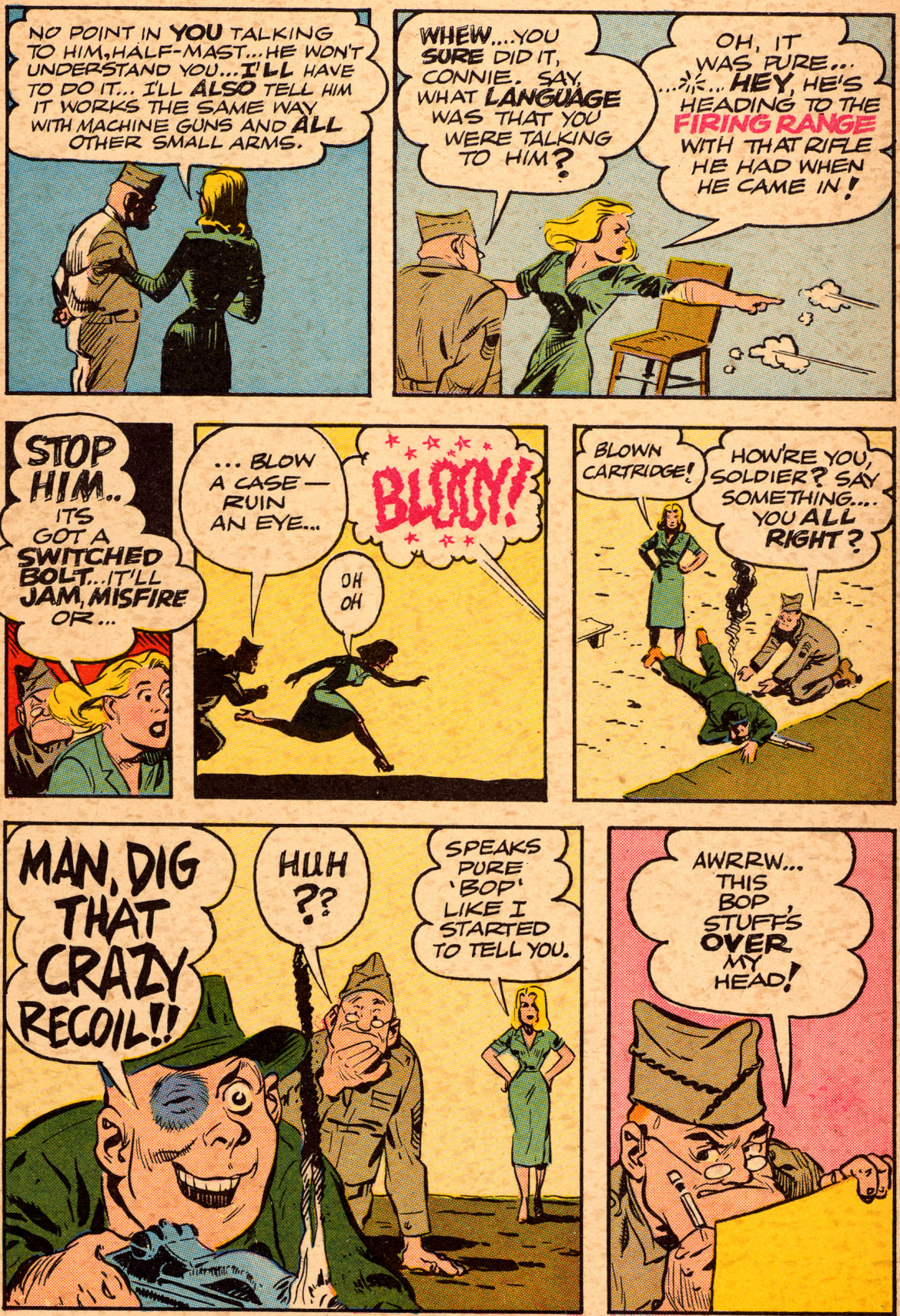

The "Big-Hub-Cap" says...
GOOD SHOOTING, MEN... NOW, FIELD STRIP AND CLEAN YOUR RIFLES!

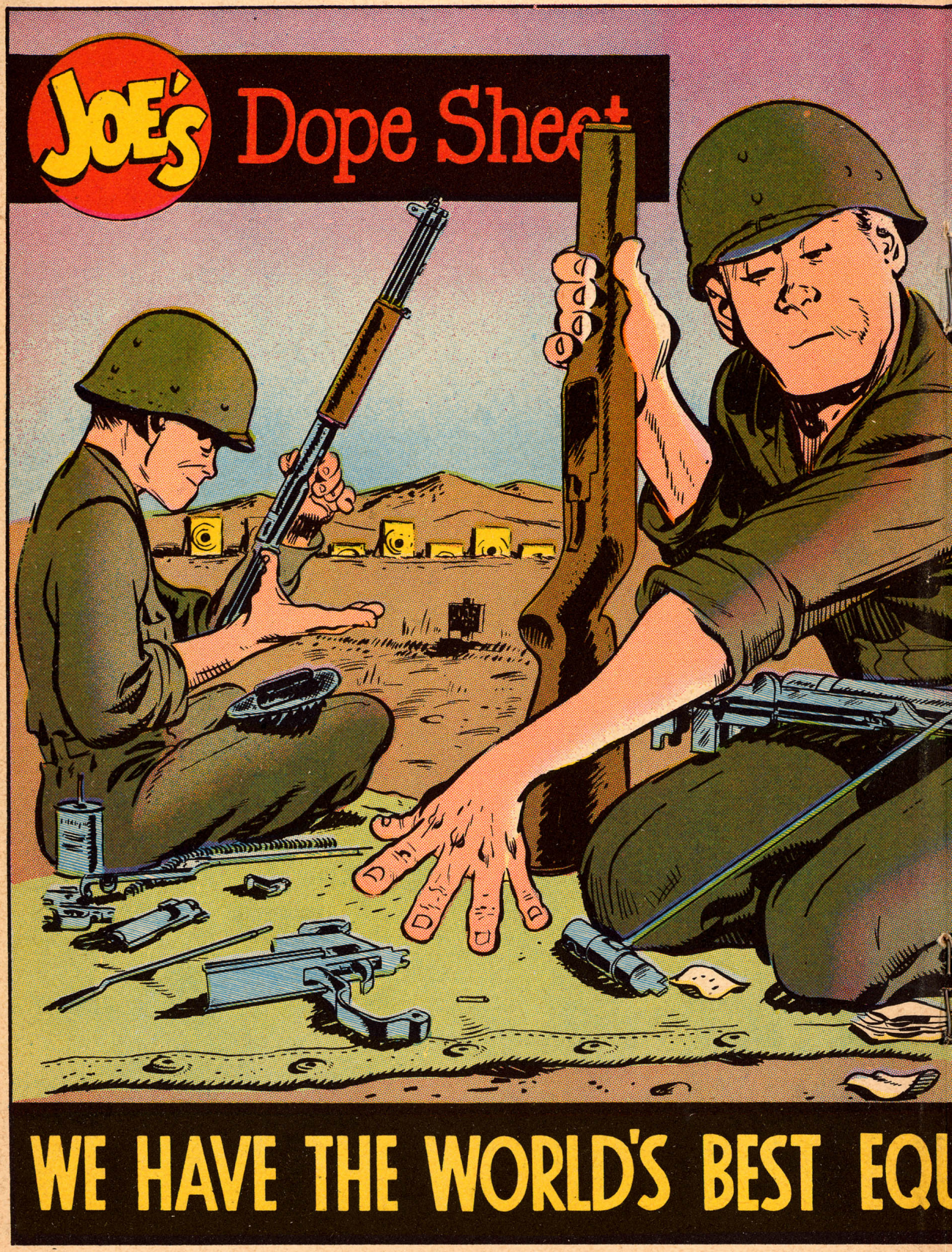
Man, on this bit I'm a Cube but from nowhere.
HEY— WHICH PART IS MINE?
DON'T MATTER— JUST PICK ANY ONE... THEY'RE INTERCHANGEABLE.

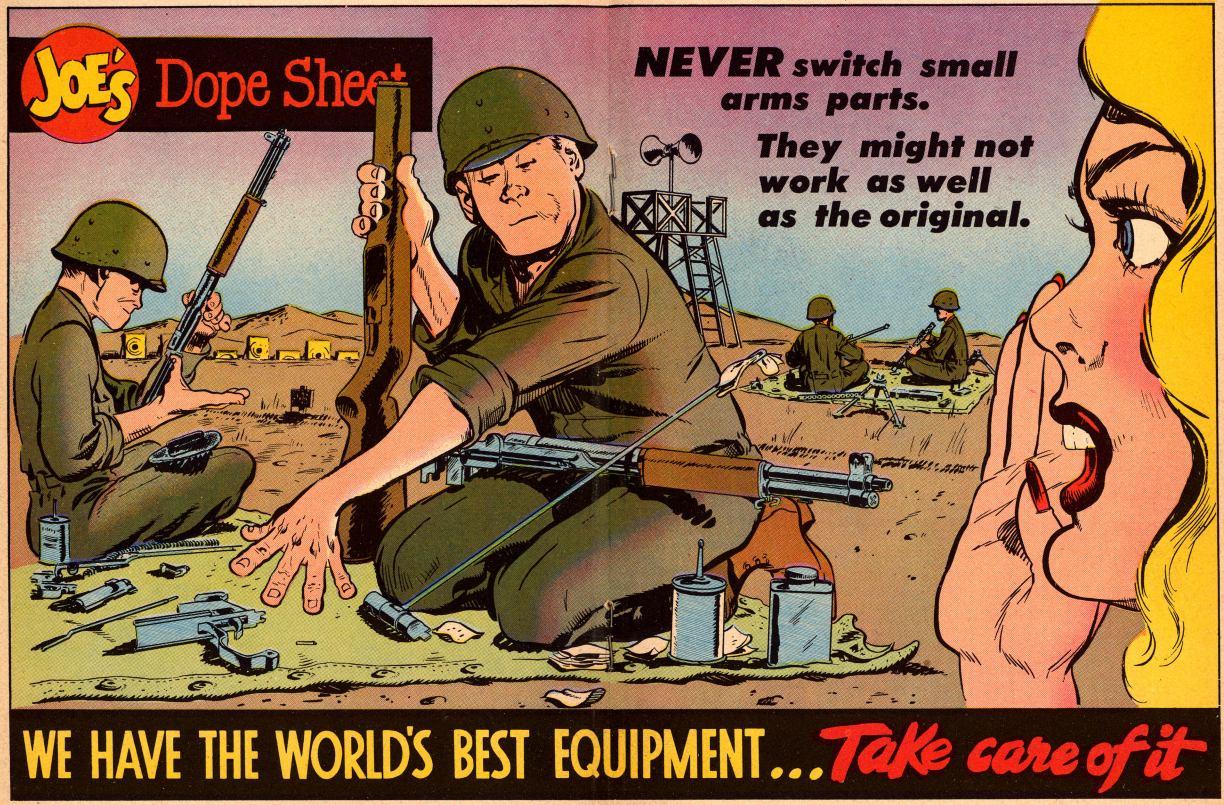

When we went back— MAN... the score we got was positively the END
HEY..*#*!! WHAT'S HAPPENED TO YOU GUYS?? THESE NEW SCORES ARE TERRIBLE!
...SEE?? I DON'T DIG WHAHOPPIN' ????
!

WHAT'D HE SAY?
SIMPLE... THEY'VE BEEN SWITCHING PARTS!

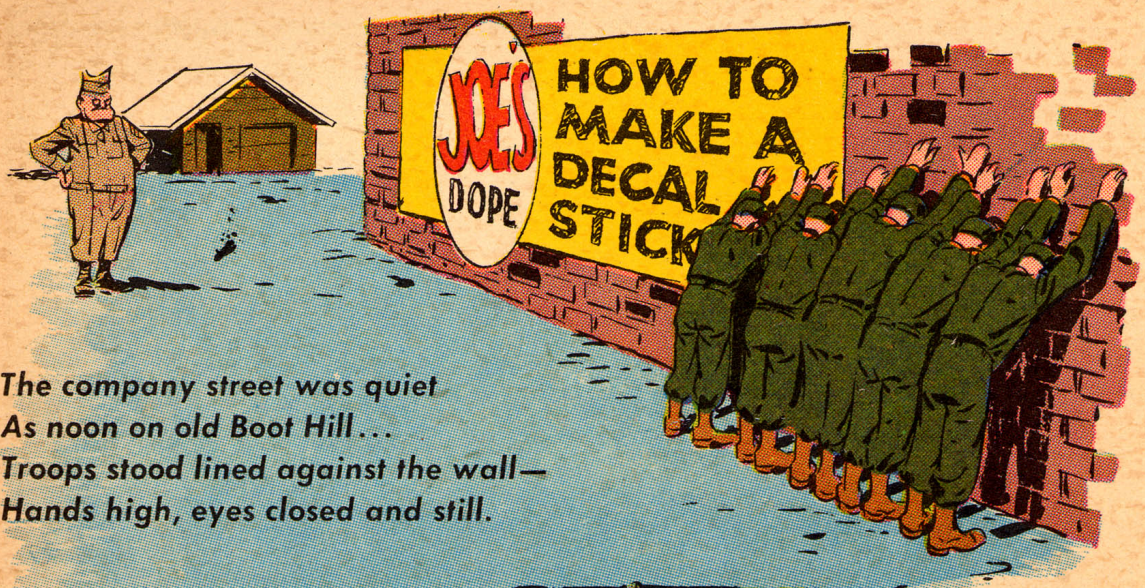

LISSEN, BOY... SURE, PARTS ARE INTERCHANGEABLE... BUT PARTS WEAR WITH USE.... SOOO, WHEN YOU SWITCH— THE PART YOU PUT IN MAY HAVE BEEN WORN A WHISKER LARGER OR SMALLER THAN THE ONE YOU TOOK OUT— IN THE CASE OF A BOLT, IT COULD CHANGE THE HEADSPACE.... AND TOO MUCH HEADSPACE COULD CAUSE MISFIRE, RUPTURED CARTRIDGE, OR UNEXTRACTED CARTRIDGE!


NO POINT IN YOU TALKING TO HIM, HALF-MAST... HE WON'T UNDERSTAND YOU... I'LL HAVE TO DO IT... I'LL ALSO TELL HIM IT WORKS THE SAME WAY WITH MACHINE GUNS AND ALL OTHER SMALL ARMS.
WHEW.... YOU SURE DID IT, CONNIE. SAY, WHAT LANGUAGE WAS THAT YOU WERE TALKING TO HIM?
OH, IT WAS PURE... ... HEY, HE'S HEADING TO THE FIRING RANGE WITH THAT RIFLE HE HAD WHEN HE CAME IN!
STOP HIM.. ITS GOT A SWITCHED BOLT... IT'LL JAM, MISFIRE OR...
... BLOW A CASE — RUIN AN EYE...
BLOOY!
OH OH
BLOWN CARTRIDGE!
HOW'RE YOU, SOLDIER? SAY SOMETHING.... YOU ALL RIGHT?
MAN, DIG THAT CRAZY RECOIL!!
HUH ??
SPEAKS PURE 'BOP' LIKE I STARTED TO TELL YOU.
AWRRW... THIS BOP STUFF'S OVER MY HEAD!


JOE'S
Dope Sheet
WE HAVE THE WORLD'S BEST EQU


JOE'S Dope Sheet
NEVER switch small arms parts.
They might not work as well as the original.
WE HAVE THE WORLD'S BEST EQUIPMENT...Take care of it

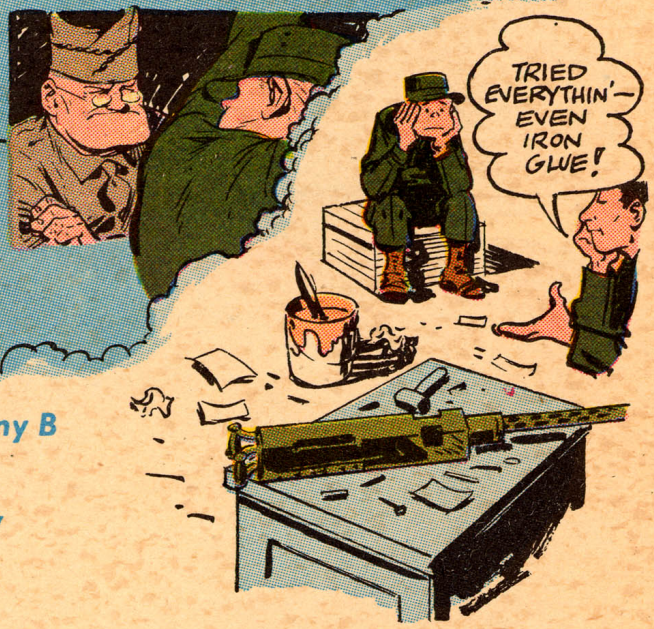
UIPMENT... Take care of it



The company street was quiet
As noon on old Boot Hill...
Troops stood lined against the wall—
Hands high, eyes closed and still.

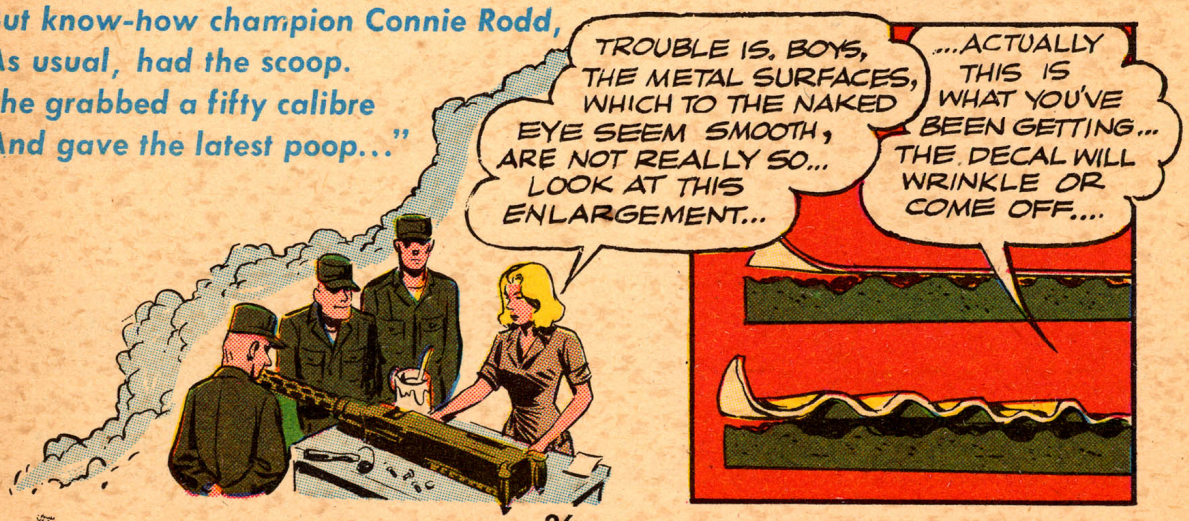
"Who hit the Panic Button?"
Barked Half-Mast, loud and gruff.
"At ease! Now someone clue me—
What started all this stuff?"

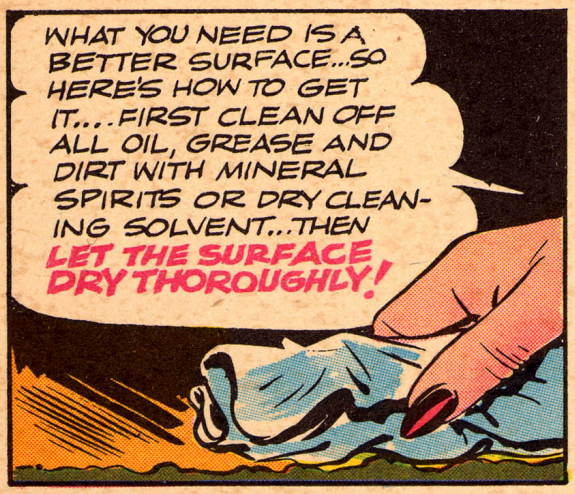
SO JOE SPOKE UP AND TOLD HIM....

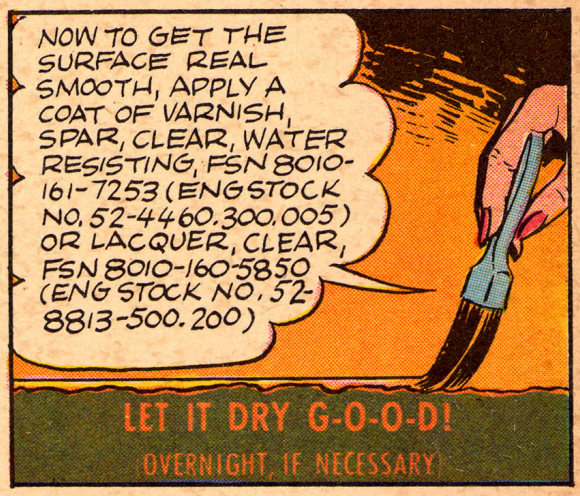


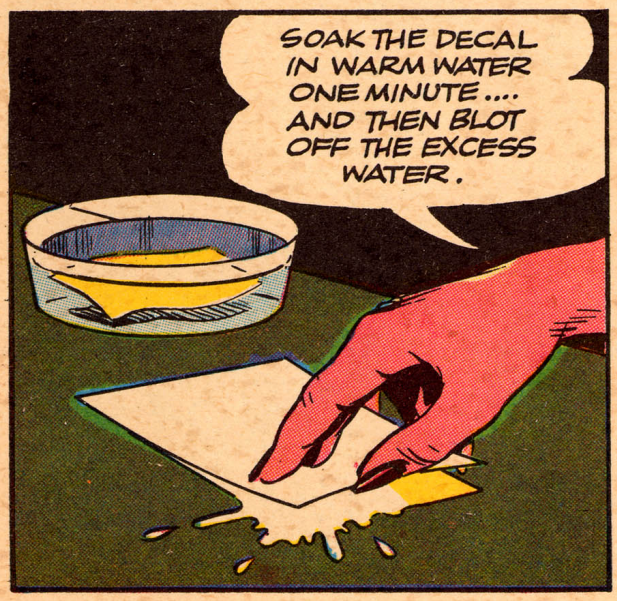
"Now a coupla boys from Company B
Were gripin' on our luck—
Thirteen gigs, and passes stopped,
'Cause our decals hadn't stuck.

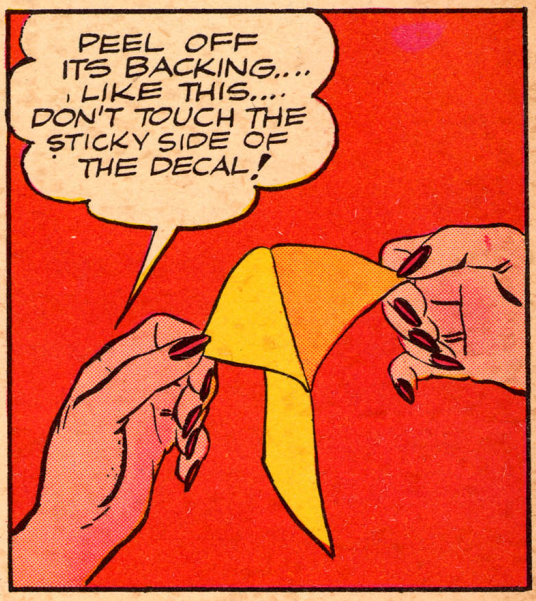
But know-how champion Connie Rodd,
As usual, had the scoop.
She grabbed a fifty calibre
And gave the latest poop..."

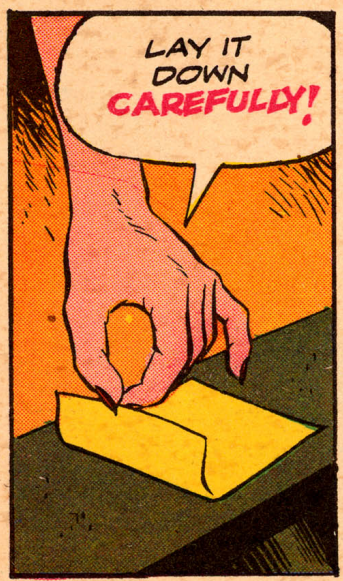


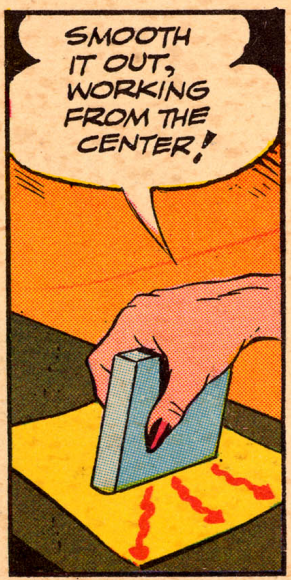




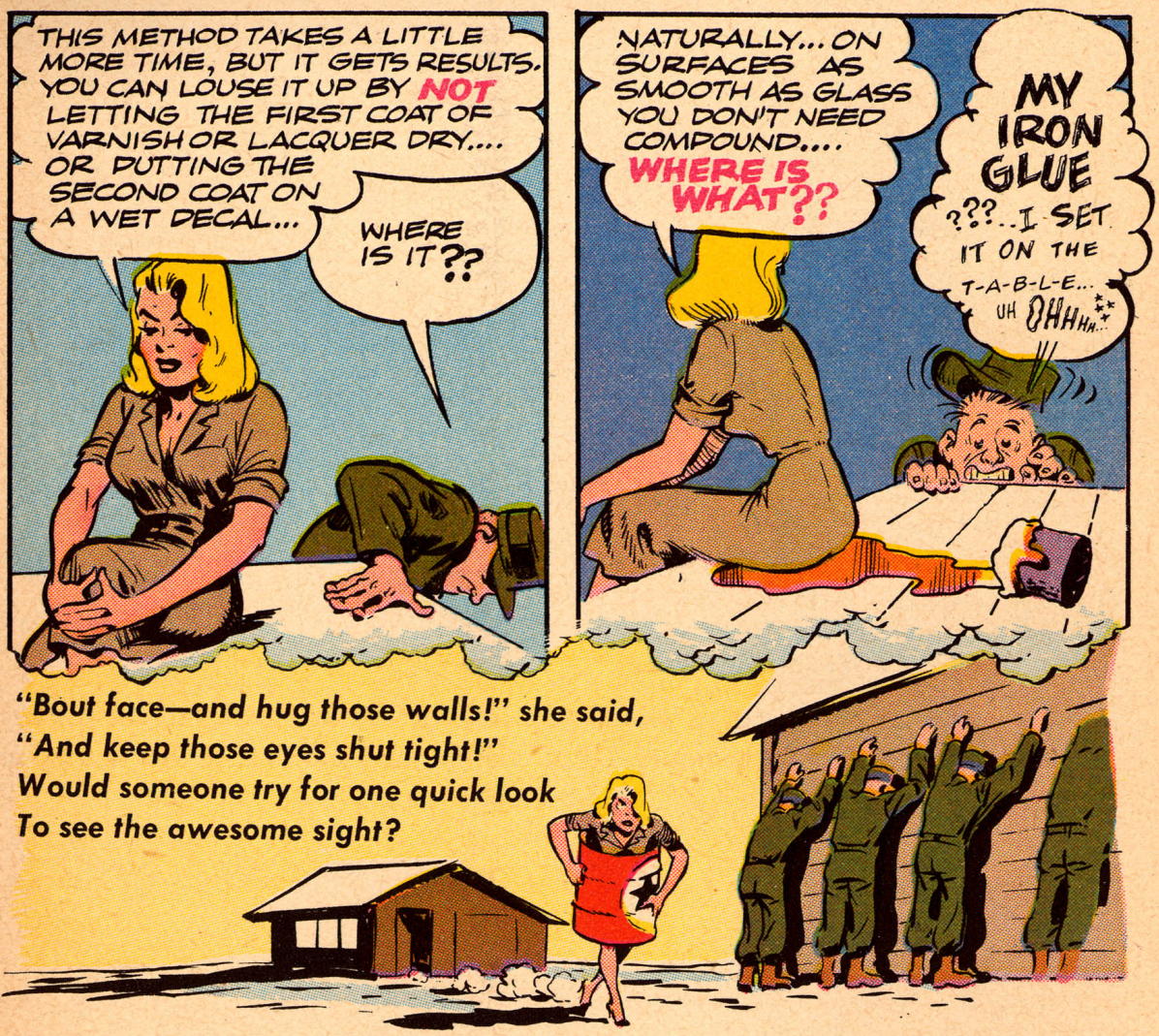




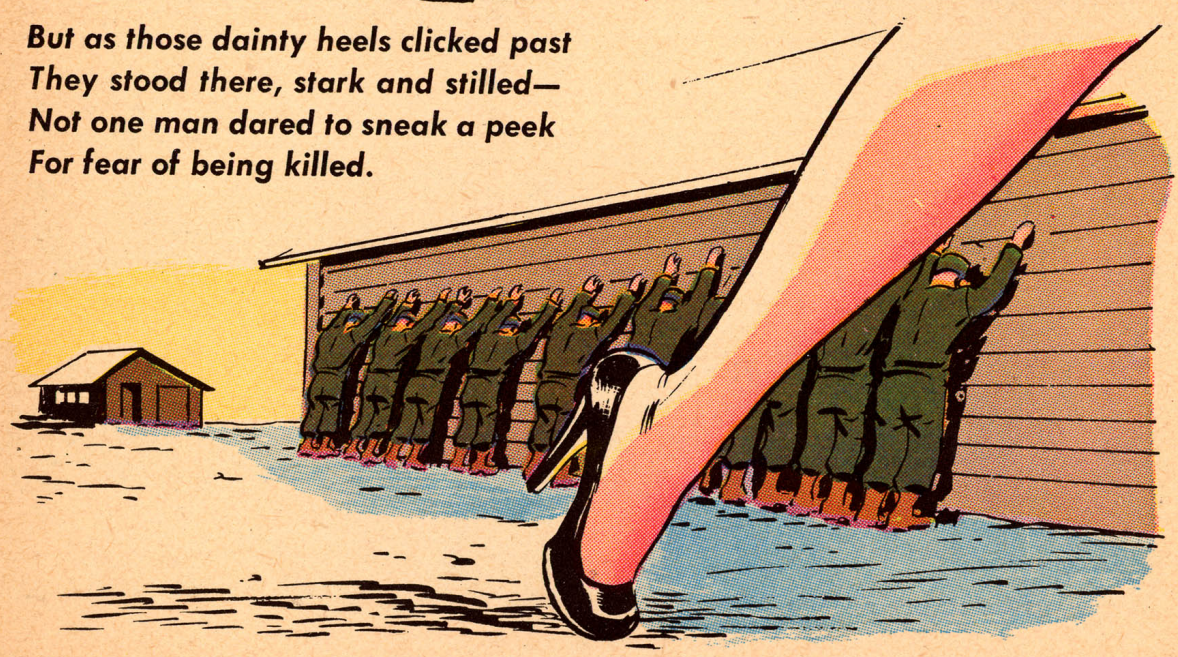




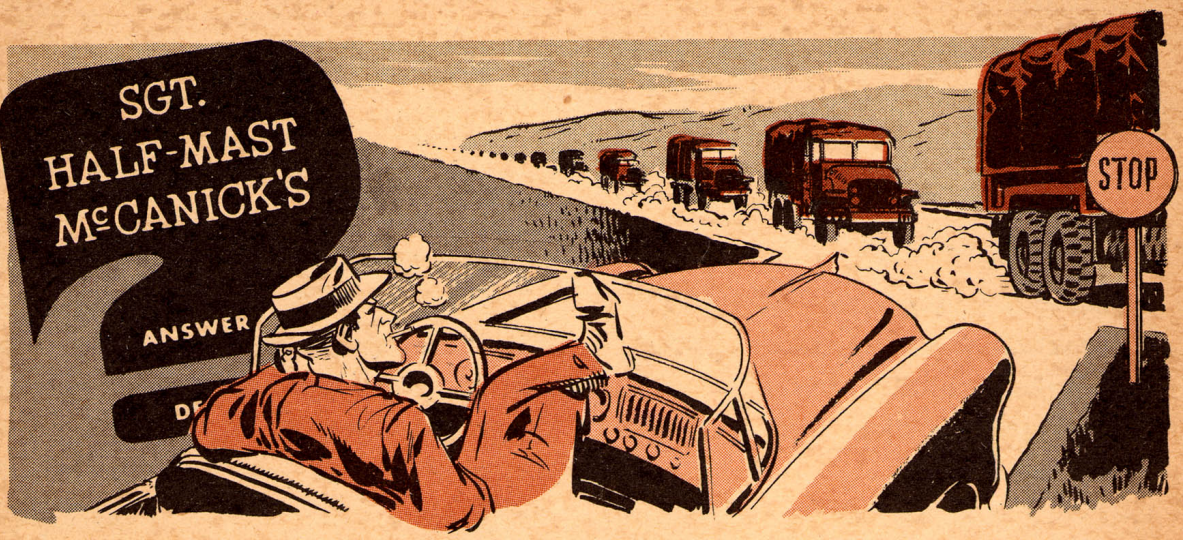
LET IT GET GOOD AND **DRY...** LET IT STAND FOR AT LEAST **6 OR 8** HOURS.



"Bout face—and hug those walls!" she said,
"And keep those eyes shut tight!"
Would someone try for one quick look
To see the awesome sight?



But as those dainty heels clicked past
They stood there, stark and stilled—
Not one man dared to sneak a peek
For fear of being killed.



CONVOY HEADLIGHTS

Dear Half-Mast,

Is there any directive that requires the turning on of vehicle headlights when driving in daylight convoys? Is there any mechanical reason for this?

Lt Col W. J. O.

Dear Col W. J. O.,

There is no Army directive which requires the use of headlights on convoy vehicles during the daylight hours. Local commanders may order this if they so desire, and some state laws may require it.

There is no mechanical reason why lights should be burned on long trips now that you have modern electrical systems. The last need for this went out in the 1930's.

A better way of identifying vehicles in convoy is the use of a small sign on the brush guard marked "Convoy," and perhaps giving other information and/or the vehicle's convoy number. These signs shouldn't be large enough to restrict the air flow to the radiator.

Half-Mast

DOUBLE TALK

Dear Half-Mast,

I'm trying to be broadminded about this thing, but I guess I'm just one of the "old school" who thinks that everything that rolls and has a shift should be double-clutched.

That's one reason I'm more or less balking at the instruction that's being thrown at some of our potential 5-ton truck drivers. The instruction says you don't have to double-clutch the truck because it has a synchro-mesh mechanism.

OK, I'll buy the fact that synchros are nice things to have around, but I just can't go along with the theory that you shouldn't double-clutch. What happens

if you find yourself on a downhill and have to downshift? If you don't double-clutch, that transmission's liable to find itself bobbling along the cobblestones.

What's your opinion?

MSgt W. J. C.

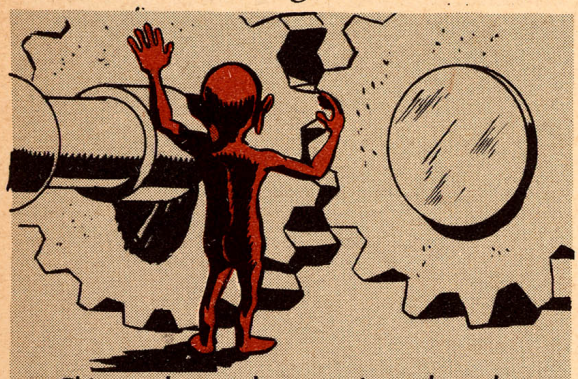
Dear MSgt W. J. C.,

An old saying goes like this—"You can't teach an old horse new tricks."

Maybe you can't, but you can sure show him these new tricks and try and sway him a bit.

Of course, you old war horses who double-clutch everything from a 10-ton truck to a scooter will probably laugh in your beer at this one. But, what the heck—argument is good for the soul.

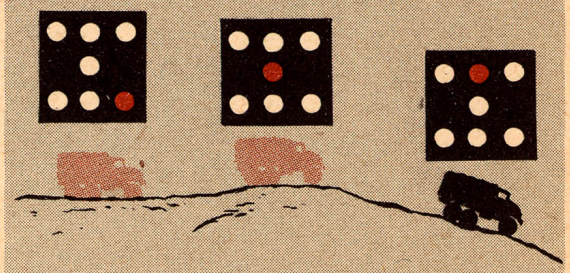
So, let's start out by saying that the 5-ton truck was built with this synchro-mesh mechanism for the purpose of getting around this double-clutching. You know yourself that it takes an experienced driver to double-clutch right, and with all the short-timers now in the Army, there are just not enough experienced drivers to go around.



This synchro-mesh comes into play when you start to engage two gears with a steady, easy push on your shifting lever. The synchro either speeds up or brakes either of the two gears so meshing will be easy. It's a good gimmick and one that should be used for the purpose it was built—to do away with the tricky footwork.

You asked, Sarge, what does a guy do when he finds he's going downhill too fast? I agree with you that if he tries to shift without double-clutching, that transmission may flip its gears. The trick is to avoid getting into that kind of fix.

The way they're teaching 5-ton driving now is to tell a guy to go downhill in the same gear he would use to go up that hill. This way he won't pick up enough speed to send him scatting.



For the newer drivers, they're telling them to stop when they come to the top of a hill and downshift to the proper gear before start ing down.

This is the safest way to do it, especially if you've never wrestled a 5-ton before. It doesn't hurt to learn double-clutching . . . know-how to do it never hurt anybody or anything.

Half-Mast

FLAT FIXERS

Dear Sgt Half-Mast,

I've got a vehicle that's got tubeless tires. When I get a flat do I take the wheel off and exchange it for another tire and wheel, or do I have to wait around and deadline my car until they get my flat fixed?

TB Ord 645 (6 June 56) lists common tools and equipment for Field and Depot only, yet the TB says it's published for the use of using organizations, all personnel responsible for minor repairs of tubeless pneumatic tires . . . now tell me just what I'm supposed to do.

Sgt P. V.

Dear Sgt P. V.,

Better find a copy of Change 1 (2 Nov 56) to TB Ord 645. It changes the title of Section III of the TB . . . it adds "Organizational."

It also says the common tools and equipment are for organizational, field and depot maintenance . . . now you can fix your own flats.

Half-Mast

FIT TO BE LUBED

Dear Half-Mast,

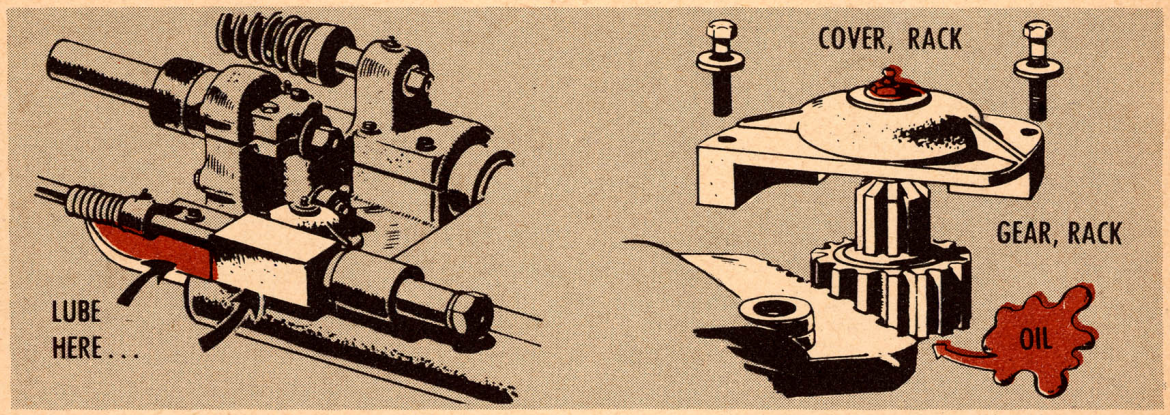
How about a quick answer to a quick question on the 90-mm gun?

What's what with lubing the slide and gear teeth in the fuze setter and operating shaft rack and pinion?

SP3 J. E. P.

Dear Specialist J. E. P.,

It looks like the grease fitting on the rack operating shaft has you buffaloed. That fitting is for getting GAA to the shaft—once a week.



The rack and pinion (made up of the slide and gear teeth) can't be lubed through the fitting. To get at these parts . . . put the fuze setter on "Fuze" with power on. This retracts the operating rack so you can remove the hold-down bolts and lift out the rack and pinion housing. Then you wipe some PL special on the slide and gear teeth.

Half-Mast

LET'S HAVE A TORQUE

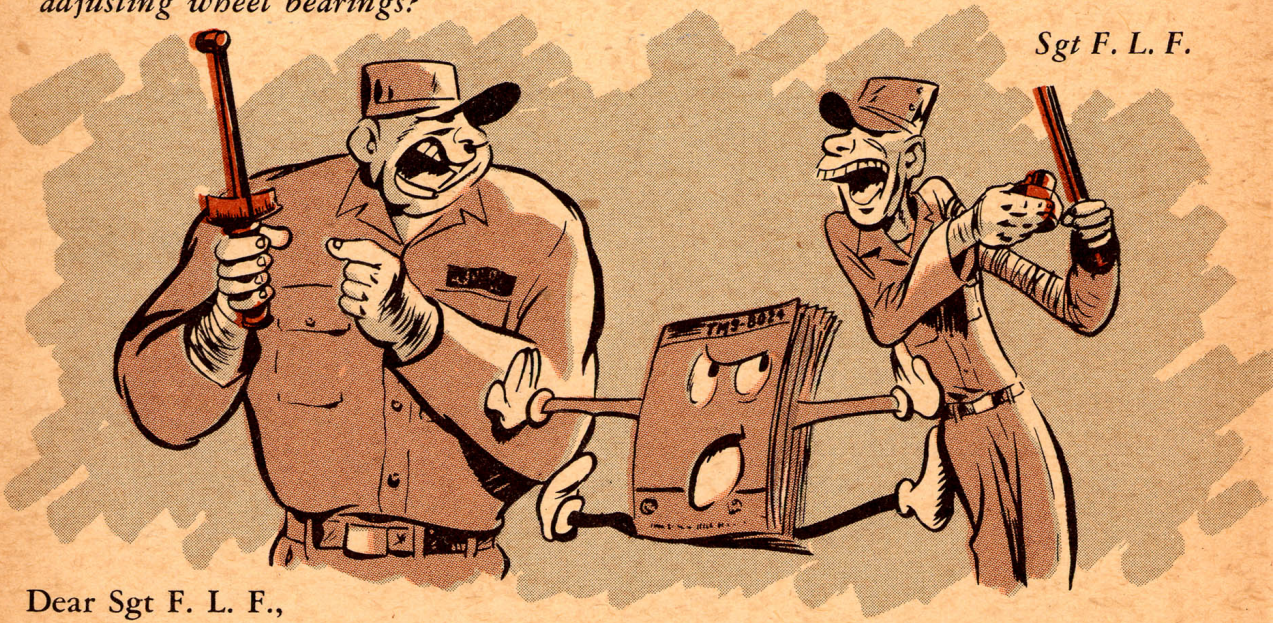
Dear Half-Mast,

It may be a minor point, but it's got me wondering. So, I'm asking for your help.

Why is it that TM 9-8024 (October 1955) on the G749 series 2½-ton trucks tells you to use a torque wrench when adjusting wheel-bearings? It doesn't follow the TM's for the other M-series vehicles which say to tighten the adjusting nut until the wheel binds and then back it off.

Could it be that the G749-series works on a closer tolerance when it comes to adjusting wheel bearings?

Sgt F. L. F.



Dear Sgt F. L. F.,

You have a point there about closer tolerance and it's not minor either—the torque setting on the G749-series wheel bearings is a precise way of preloading those bearings.

Why the TM for the G749-series trucks tells you to use a torque wrench and the other M-series vehicle TM's do not is that each manufacturer carefully checks out the best way to do things on his truck. This dope is passed on to the Army which gives it to you in TM's, TB's and your other directive-type publications.

The best thing, then, is to go by your TM and the other directives. These things were worked out before they were put in the book, so you've got no sweat. If there's ever a change in the way of doing something, it'll reach you double-quick like.

On TM 9-8024 for the G749 vehicles—there is one new spec you ought to notice right away, and it has to do with this business of wheel bearings. Whereas the old TM 9-819A tells you to torque those wheel bearings up to between 150 and 170 ft-lbs, the new TM says that torque spec is to be only 60 to 75 ft-lbs.

Half-Mast

ARMAMENT

Care and feeding of weapons used in subcaliber firing—

CLEAN 'EM AND ROTATE 'EM

Subcaliber firing is a good deal.

You can fire undersize ammo by using a subcaliber device that either goes on top of the barrel of your piece or inside the tube.

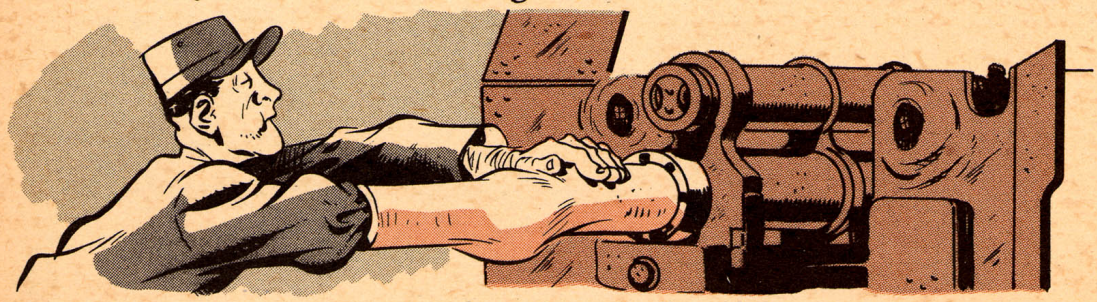
You get in shooting practice while getting the feel of the weapon, and Uncle Sam saves himself some greenbacks when you don't keep blanketing the countryside with the real McCoy.

But if you're not on the ball when using the device you insert in the barrel, you may wind up with a barrel that'll make its trip to the melting pot lots faster than it should.

Maybe you think that when the subcaliber device is inside your weapon's tube, that subcaliber firing doesn't bother the tube. Never believe it.

Seeing's how that type subcaliber device doesn't extend to the end of the barrel, the subcaliber ammo spits carbon all over the inside of the tube. If you don't clean it out according to the rules (same as after firing), you get a hard carbon buildup after a time. Also, the lands and grooves get chewed on by the powder salts and other goop left after firing.

While you have the bore cleaner and lubricating oil out for the subcaliber bore save some elbow grease for the weapon's barrel. Its insides need cleaning, too—just like after you fire it with the big ammo.



You also want to rotate the guns used in subcaliber firing. That way you make sure all the strain isn't on just a coupla guns.

NO MORE CHANGE

You want DA Label 19, dated 15 Aug 56 for knowing what's what with headspacing the .50-cal machine gun. The new decal replaces the one dated 1 Oct 53 . . . and tells you to read FM 23-65 (Dec 55) for headspacing dope.

DON'T GOOF . . . WATERPROOF

Take a squint at the main junction boxes on your M52 self-propelled howitzer. Might be water's been leaking in around the cover's 10 hold-down screws and the innards are rusting.

To save the box, take it back to Ordnance and have them waterproof those screws according to TB Ord 581 (17 Oct 54), "Ordnance Vehicles—Water Proofing Electric Boxes."

TICK, TOCK

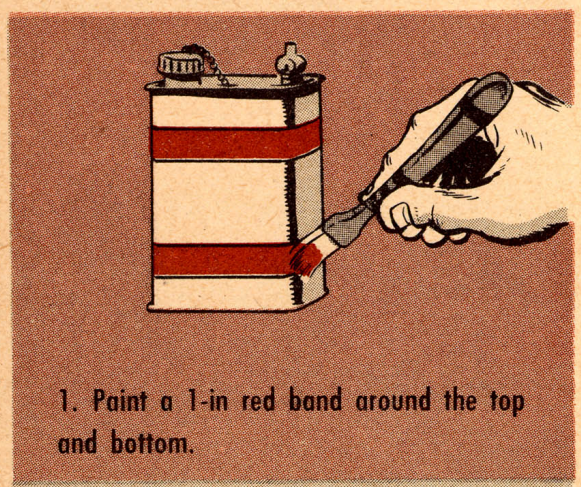
If fuze setting has you running around in clockwise and counterclockwise circles . . . there's one way of making sure you're always right—no matter what fuze setter you use. Turn the setter in the direction of increasing fuze readings.

FCS Potentiometers

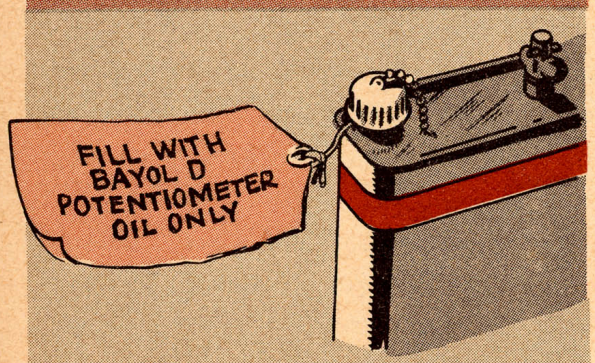
TAKE CARE—THEY'RE VERY IMPORTANT POTS

Fire control system potentiometers are real delicate things. Even more so than an egg shell or the smallest innards of a watch. They've got to be treated with velvet-covered kid gloves to keep doing their job right.

First, be sure only the right thing goes into the pot by marking the pot-oil fill-can with fool-proof identification. Any slight contamination goofs up the potentiometer. Identify and protect the fill-can like this:



1. Paint a 1-in red band around the top and bottom.

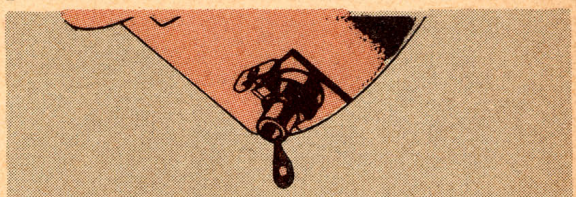


2. Tag her "Fill With Bayol D Potentiometer Oil Only."

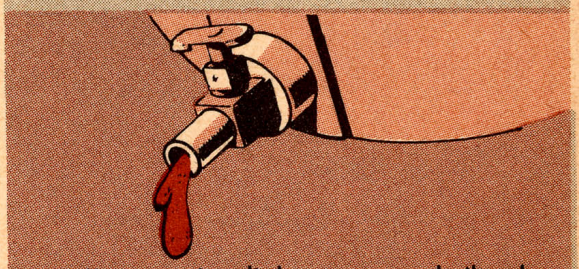
3. Keep hose ends covered. Use clean foil from spare chassis or new filler hoses if covers aren't available. If you think the old hoses are contaminated—get new ones.

Use **only** Bayol D insulating oil, electrical, FSN 9160-663-1360 (1 qt); FSN 9160-663-9841 (1 gal); FSN 9160-663-9837 (5 gal). A bit of contamination so small it couldn't even be called a speck in a gnat's eye is bad medicine for the pot.

When changing or adding oil, go through this little routine for extra protection:



After draining all the oil you can with the pot level, tilt her to get out the last bit of oil in the bottom—and any sludge that's in it.



Now pour in a little more unused oil and drain by tilting again. That should take out any dirt that's collected in the bottom.

Keeping oil cans clean is important, so note this: A few **new** pot fill-cans have turned up with rusty insides. The word is there's more around. Check **all** fill-cans—**including new ones**—for contamination. Toss any can with rusty insides on the junk heap, oil, and all.

And any clue that contaminated oil has been used in the potentiometer means send her to Ordnance for the same good flushing she gets in the annual cleaning job. Easiest way to goof up the pot is to disassemble it.

Sealed, oil-filled, precision potentiometers are never to be disassembled in the field.

Nobody closeby is allowed to open 'em—not even 3rd echelon maintenance shops. An instrument laboratory is the only place a potentiometer can be disassembled . . . they're that delicate.

So when a pot acts up in any way, turn it over to your supporting Ordnance outfit quick. They'll ship her to the people authorized to take apart and repair.

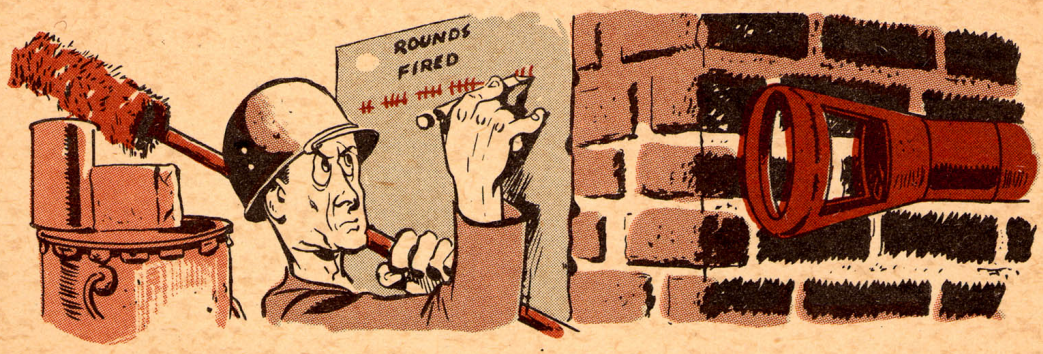
HIC . . . HIC . . .

Blink a coupla times and look down the barrel of your 3.5 inch M20A1B1 rocket launcher again. You really may be seeing spots before your eyes.

Seems metal spots have popped out in the bore of some weapons—smack under the serial number. The spots showed up because not enough support was provided inside the barrel when the number was stamped. Some spots could be as high as 1/32 inch, which would mean a tight fit for the ammo as it leaves the barrel.

Show the raised spots to Ordnance. They'll get rid of the defects for you.

WHAT'S TB IS TO BE



TB Ord 469 means what it says.

Muzzle brakes, blast deflectors, counterweights and bore evacuators on tank gun tubes should be removed and cleaned about every 50 rounds or once a week —whichever comes first. And don't miss the gas ports when the evacuator is off.

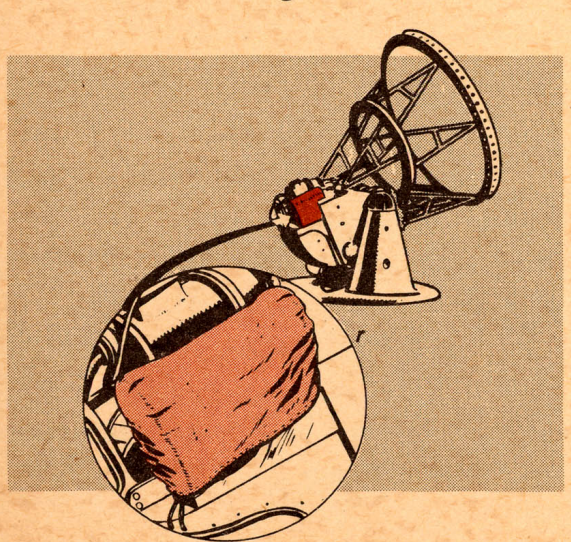
And if you're in a damp area, don't wait for the 50 rounds or one week to come around . . . check daily.

After cleaning, coat all threads with graphite grease, which you get by ordering FSN 9150-257-5370. Or mix dry graphite (FSN 9620-233-6712) with some GAA for some "home-made" graphite grease. The stuff makes it easier to get the parts together and take 'em apart again.

And you know you use preservative lubricating oil on unpainted surfaces after they've been cleaned.

THE RAINS CAME

Fellow complains the track magnetron on his M33 FCS shorted out 'cause of dampness in the track blower motor. Says the track antenna was in vertical position because of high winds, which let water seep into the motor housing vents.



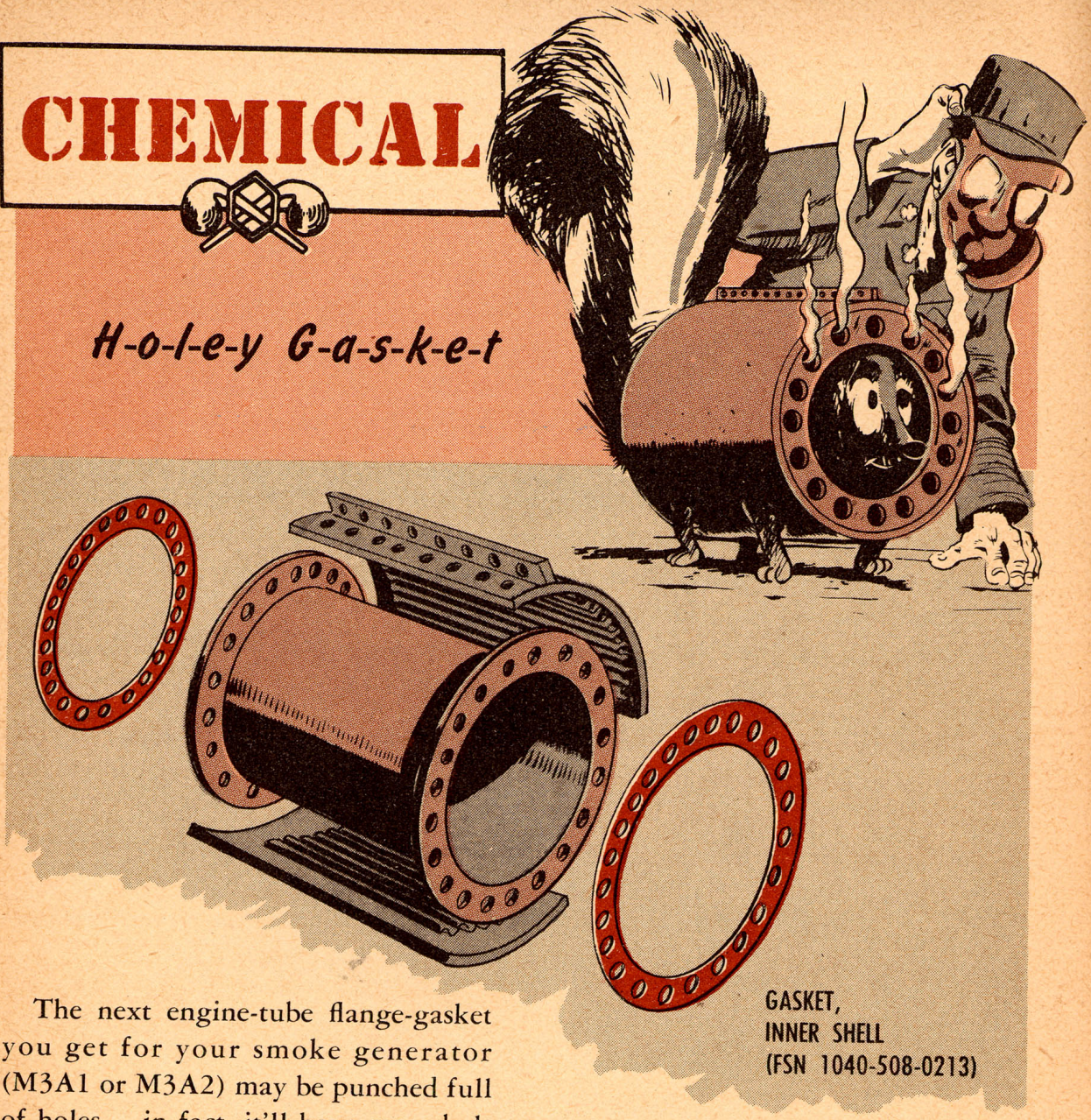
Wants to know how to protect the motor air vents when the track radar lens is vertical for storm wind protection.

Real simple. Get a piece of waterproof canvas and put eyelets along each side. Tie her over the open end of the track blower motor to keep out the weather.

Natch, you'll have to take the canvas off when the set's operating. Leaving it on would cause the maggie to overheat.

CHEMICAL

H-o-l-e-y G-a-s-k-e-t



GASKET,
INNER SHELL
(FSN 1040-508-0213)

The next engine-tube flange-gasket you get for your smoke generator (M3A1 or M3A2) may be punched full of holes... in fact, it'll have more bolt holes than you can use. Don't worry about it... just use the holes you can match up with the holes in the flange, and it'll do a good sealing job.

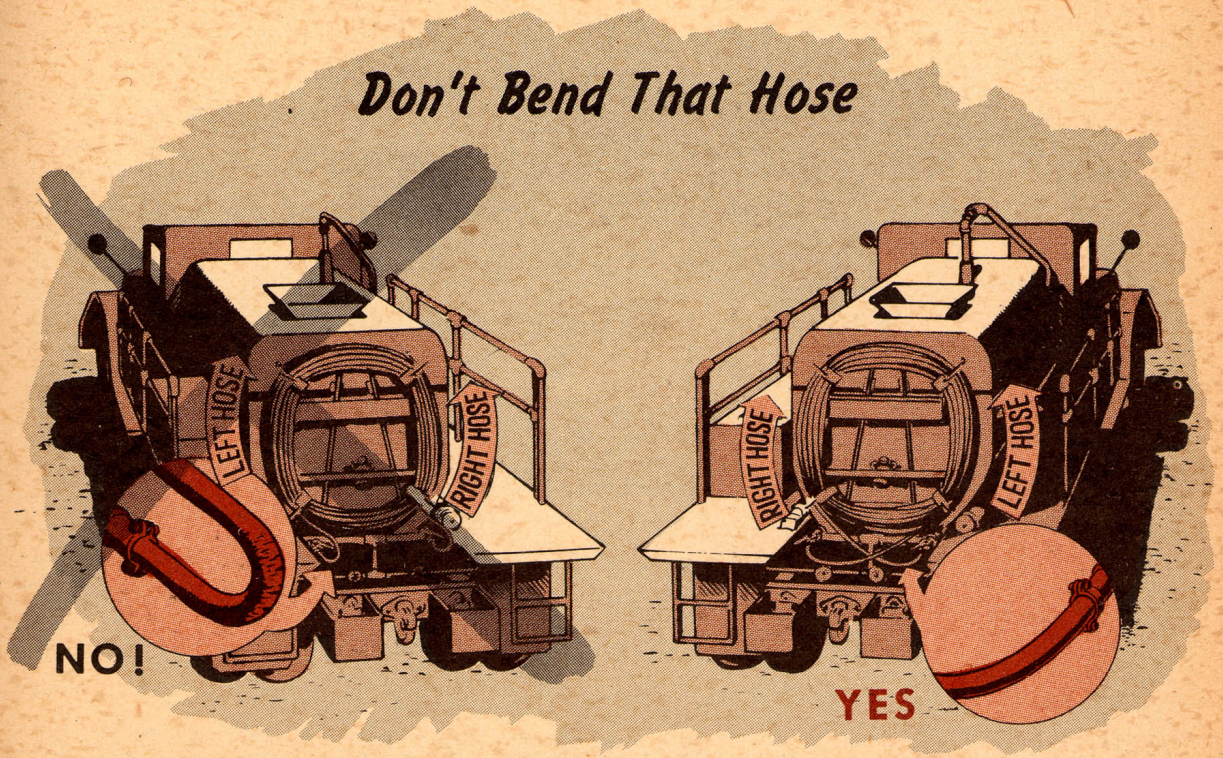
After you place the gasket so some of its holes line up evenly with the holes in the flange just insert the bolts and tighten 'em up as usual.

This new, holey gasket is tagged: Gasket, inner shell (FSN 1040-508-0213). It can also be used on the flange at the smoke-outlet end.

The old engine-tube flange gasket comes under FSN 5330-285-3479, and is called a spirotallic gasket... and, as you know, it has no holes at all.

A good point to keep in mind any time you're working with the engine-tube flange is that the bolt threads get a dab of antiseize compound (FSN 8030-274-4170) before you apply the wrench.

Don't Bend That Hose



The spray hose on your truck-mounted decon outfits is tough stuff, all right. But you've gotta watch it. Too sharp a bend over too long a time can crack it, specially near the discharge cutoff valves.

You'll get less bend and strain when mounting the hose if you wind up the right-hand hose clockwise and the left-hand hose counter-clockwise.

It's a good idea, too, to disconnect the hose from the cutoff valves before it's wound up. This'll get rid of the sharp bend at those points.

Naturally, you're going to get some sharp bends when the hose is being used up near the front of the truck. So it's even more important that you cut down on other unnecessary strain.

Air Cleaning

The latest lubing info for the M6 Filter unit, (gas particulate), is: LO 3-420 (May 56). The new supply manuals for this item are: CML 7-520225, 520226 (9 Mar 56) and CML 8-520225, 520226 (8 Feb 56).

And, as you already know, the maintenance and operations info for the M6 comes in TM 3-420 (July 56).

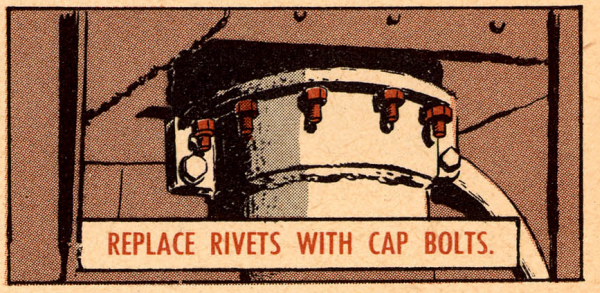
QUARTERMASTER

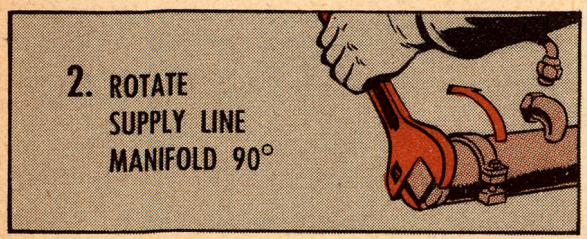
Bolts and Screws

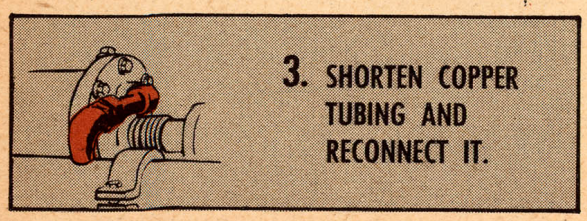
Dear Connie,

We were having a lot of trouble with our fuel can and drum cleaning machine until we came up with some little fixes. For one thing, the can-cleaning cradles kept ripping loose where they were riveted to the cradle brackets. So we replaced the rivets with cap bolts by drilling through the brackets. Haven't had any trouble since.

While we were at it, we replaced the two mounting screws on the nozzle assemblies with Allen-head screws. They hold a lot better and keep the nozzles tighter.







Also, we found that the cradles were banging into the feeder pipes. So, we loosened all the feeder lines and rotated the supply line manifold 90° toward the cradles. Then we shortened the copper tubing and reconnected it. No more banging.

Maintenance Department
QM School, Ft. Lee

Dear Gang,

Looks like you've got it whipped, all right. Unsatisfactory Equipment Reports from the field have resulted in these changes being included in the latest equipment. But for older machines, your fix is the answer.

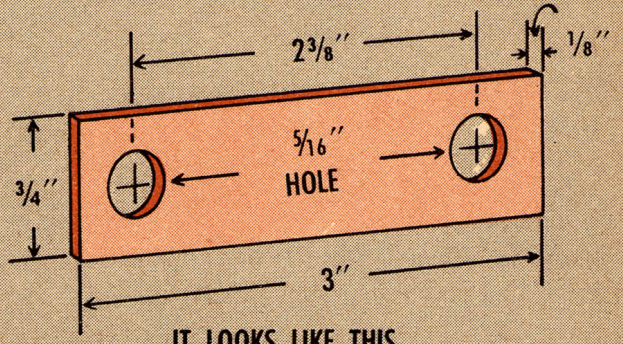
Connie

Forklift Shift Linkage

Dear Connie,

Our Motowlift forklift (4000 lb, Service Caster Model S-4024) is a great one for snapping the shackle shift-linkage on the reverse-and-forward gear-shift linkage-assembly.

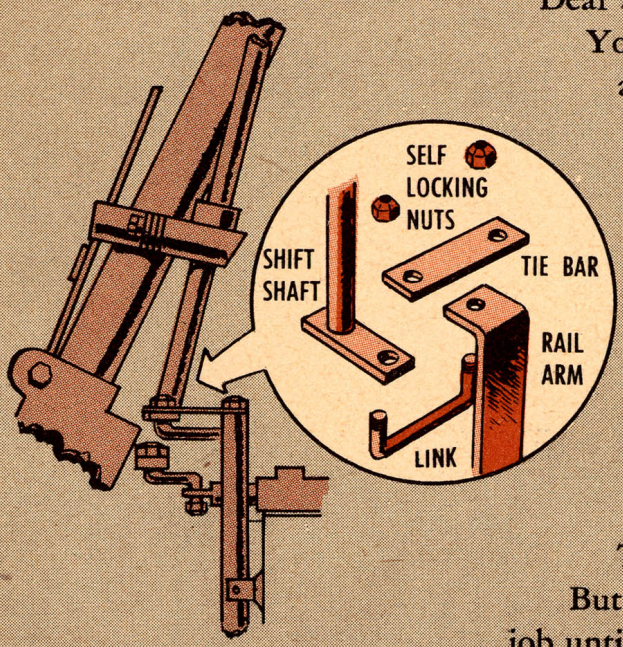
The original U-shaped link's hard to come by, so we had the shop make up a simple replacement. Even the replacement part breaks occasionally, but it still lasts longer than the original. Since they're easy to make up, we don't have to deadline the lift while waiting for the part.



IT LOOKS LIKE THIS...

Our fix is made of mild strap steel. The holes fit into the linkage connections on each side and the strap's held in place with cotter pins.

SFC J. J.



Dear SFC J. J.,

You've strapped the problem down all right, but you're missing a link. MWO 10-1605D-1 (8 Dec 52) takes care of that breakage by putting a tie-bar (like yours) over the original U-shaped link. So make another try for the original link (FSN 2520-358-8760, listed in QM 7&8 MHE 130, page 19). Then put your tie-bar over the link like the drawing shows. This gives you double strength. But the tie-bar alone should do the job until you get the link.

The official bar is called Forward and Reverse Shift Link-Tie-Bar, FSN 2520-358-8397. They're in supply, so you won't have to make your own any more.

Be sure to leave some free play between the self-locking nuts and the tie-bar for easy shifting.

Connie

TIRE TIRED

Dear Sgt Dozer,

We've tried three times to requisition new tires for our fire truck. Three times the requisitions brought re-caps or used tires. We're tired of sending 'em back and asking for new ones.

A guy in the outfit says there's a regulation that says you get **new tires only** *for fire trucks.*

Can you tell us if there is such a regulation? If not, is there some way we can persuade supply to give us new tires?

Mr. R. R.
Post Engineers Maintenance Shop

Dear Mr. R. R.,

The regulation you're looking for is Ch 1 to AR 750-137 (5 Nov 52). Para 7b (2c) of the change says this:

"One hundred per cent supply of new tires for use on fire department vehicles and crash trucks is authorized only when the requisitioning basis specifically states that tires being requisitioned are to be used on these types of vehicles. . . ."

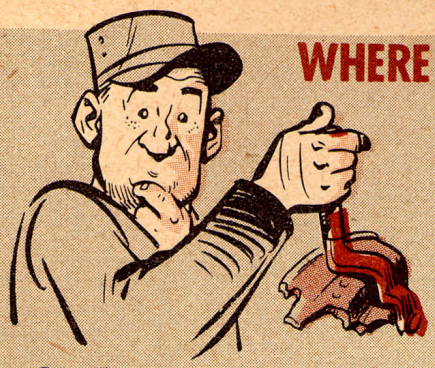
Do like it says. Spell out in big letters on your issue slip that the new tires are for use on a fire truck. And list the AR and the change.

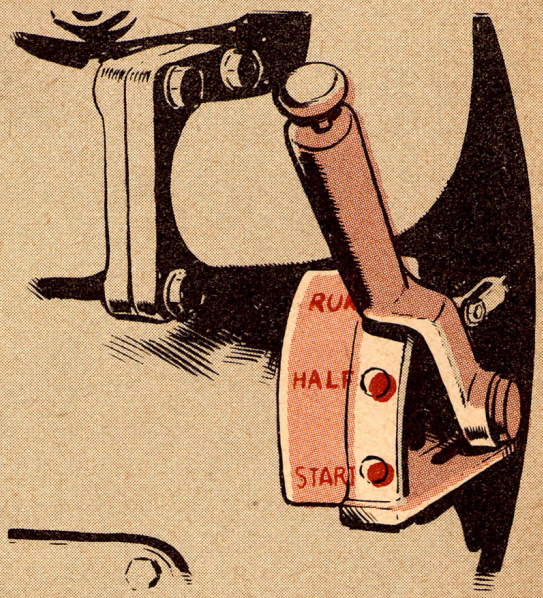
When she's made out just right, take the requisition in your own little hand to supply. Remind those boys that they've got to keep that **for fire equipment** tag on the requisition—no matter what they do with it or where it goes.

Playing it that way will get you those new tires—pronto.

Sgt Dozer

WHERE DO YOU PUT IT?





Dear Sgt Dozer,

We have a slight argument in our shop about compression levers. I was told at an Army bulldozer school that you're supposed to leave the lever engaged when shutting off the rig at noon or night. They say this'll keep the valves from warping.

My friend says the lever should be disengaged. He doesn't have any reason, but argues that he's always done it that way. I know if anybody could straighten us out, you could. How about it?

A1C W. F.
APO 704, San Francisco

Dear Airman W. F.,

You win the bet—the compression release lever is in the RUN position when the dozer is shut down.

It fits in with the procedure for shutting down a diesel engine like this: First, of course, you allow the engine to idle five minutes with the throttle half open before stopping. Then move the throttle control lever to the extreme forward or closed position and drop the plunger into the hole on the throttle control bracket. Here's the deal with the lever:

While the engine is slowing down, shift the compression release lever to the START position. After the engine stops, shift the compression release lever to RUN position. You do it that way to release valves that are opened by the lever.

The compression is released after the throttle's closed so the engine will coast to a stop. When the engine does this, it won't stop in the same place each time. That distributes wear on the flywheel ring gear, because the starting pinion will engage at a different spot each time.

One last reminder . . . don't try to stop the engine with the throttle on and compression off. All it does is load up the engine with unburned fuel—and that's no good.

Sgt Dozer

WRITE RIGHT NOW

There's some Engineer equipment in the field for which Eng 7&8's haven't been supplied. And naturally, you gotta have a supply list for each item.

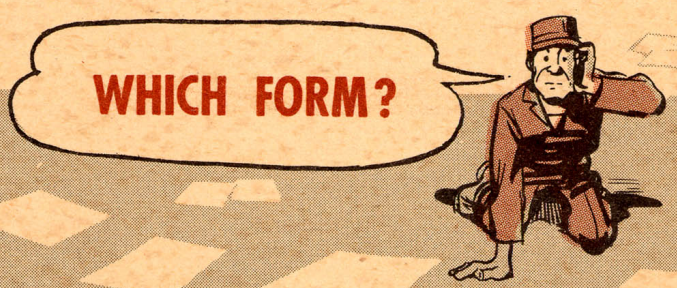
If you're sure there's no Eng 7&8 to be had, you can get a parts support listing for your equipment by writing to:

Be sure to give make, model and serial number of the item so EMC can furnish the right parts support list.

You'll get stock numbers, nomenclature and quantity of item you're authorized. Just like the regular publication.

Better take pen in hand. It's a lot easier than trying to get along without supply manuals.

WHICH FORM?



Dear Sgt Dozer,

What form do we use to report accidents on stationary items of Engineer equipment such as generators, pumps and air compressors? I'd say Standard Form 91. Of course, that one's for the operator's report of a motor vehicle accident. But can't it be used for stationary equipment, too?

Cpl H. A. T.

Dear Cpl H. A. T.,

This is a good question and can be a little confusing. SF 91 is used to report motor vehicle accidents for purposes of claims as required by SR 25-20-1. DA Form 285 is used to report all accidents for purposes of compiling accident records as required by SR 385-10-40.

For example, let's say that one of your portable generators is involved in an accident while it's set up and in operation. It would be considered a piece of sta-

tionary equipment and be reported on DA Form 285. SF 91 wouldn't come into the picture.

But suppose your generator rolls over into a ditch while being towed by a 2½-ton truck. It would be reported on SF 91 by the driver. That's because any piece of towed equipment is considered a part of the prime mover when connected to a motor vehicle.

The driver's supervisor will also have to fill out DA Form 285 to report the accident in accordance with SR 385-10-40.

Sgt Dozer

L-O-N-G AND SHORT

Save yourself time and Uncle Sam money by giving the exact lengths you want on requisitions for bulk stuff like cable, pipe, hose and tubing.

Here's the deal. Supposin' you want two 55-ft lengths of cable. Making out the issue slip for 110 feet of cable will get you a piece 110 feet long you can cut in half. But that's no way to run a railroad.

Write on the issue slip that you want two each, cable 55 feet long. In other words, say what size pieces you want.

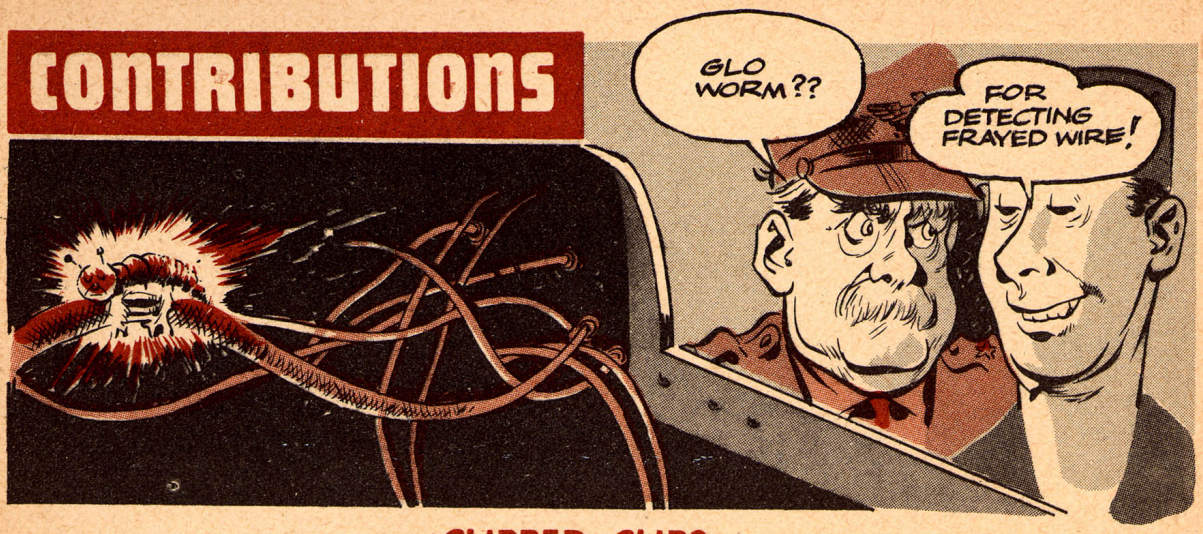
This is how it saves you time and your Uncle cash: Supply guys have a lot of short pieces of cable, pipe, hose, tubing and such on hand. You see, they get the stuff in long pieces and cut it to fill requisitions. After a few paydays they've got all kinds of short pieces laying around.

So maybe somebody needs four pieces of tubing, each three feet long. He asks for 12 feet on his issue slip, and the supply boys whack it off one of their l-o-n-g pieces.

But—if the issue slip had said four three-ft pieces—that's where the saving comes in. Supply maybe has those four short pieces around and can give 'em to you without cutting up a long piece.

Natch, your chances of getting the stuff faster are better this way, too. Supply rooms are gonna have short lengths around after the long stuff is gone.

CONTRIBUTIONS



CLIPPED CLIPS

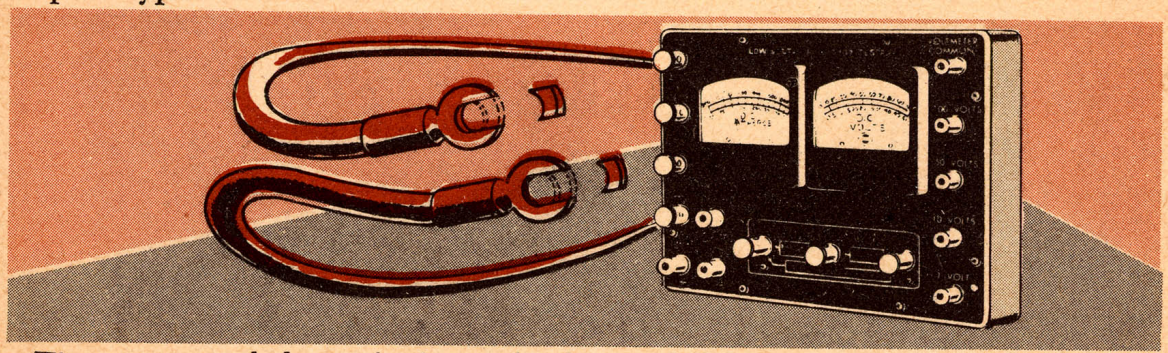
Dear Editor,

As you know, the ammeter leads from the low voltage circuit tester Ord Stock No. 17-T-5575-50, terminate in eye-type terminals, to which the bull-dog clips are attached.

These clips are fine for testing commercial-type vehicles, but since they are not rubber-sleeved, they are a little hard to use on the adapter set, Ord Stock No. 17-A-3150 (FSN 4910-356-7511), when testing the waterproof 24-volt systems on tactical vehicles. Also, the posts on these adapters are pretty close together, so the big clips are sorta crowded.

We've found an easy solution which has made the hookup easier and has eliminated all short circuits for us. We remove the bull-dog clip, stow it in the tester box for use on commercial vehicles.

Then cut a segment out of the eye-type terminal on the lead, making it in effect a spade-type terminal.



These open-ended terminals can be fastened directly to the binding posts on the generator and regulator adapters from the adapter set, making a neat, tight connection with no chance of jumping loose or causing a short circuit.

Of course, we can put the clips back on with no trouble when we need them.

Sgt E. D. Barnard
Fort Lewis, Wash.

STICKY PISTONS?

Dear Editor,

On our M44 self-propelled howitzers there's a pin (Woodruff key) in the accelerator pedal shaft that sometimes shears off. When this happens, we've found the first place to look for trouble is the slave cylinder.

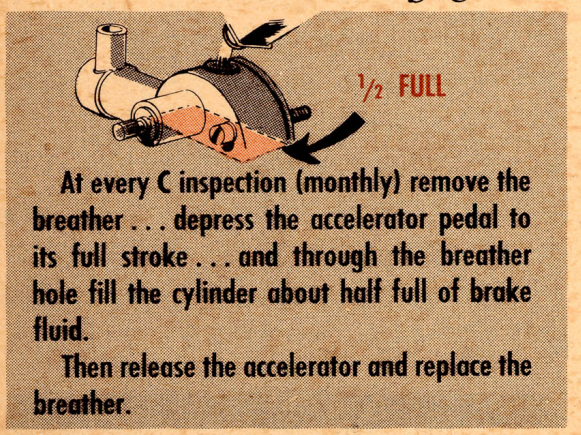
Seems this cylinder has a way of sticking and freezing up from rust.

Apparently moisture comes in through the breather, and has no way to get out.

So it rusts the cylinder, causing the piston to stick—or the rubber cups to get worn or chewed up.

If yours is rusted . . . the way to beat this is to have your Ordnance support outfit pull the cylinder off and disassemble it. Then they'll clean and shine up the inside with a little crocus cloth.

After they have it back in good working order—you can help guarantee that the rust doesn't start forming again.



This'll make sure that the inside walls of the cylinder are always protected by rust-preventive fluid.

Naturally, you'll want to keep an eye on cross shafts, brackets, levers and rods to be sure they're not stuck or bent.

All this keeps everything working nice and slick—and cuts the number of sheared pins down to practically nothing.

CWO Roy I O'Connell
APO 66, New York

WATER FALL

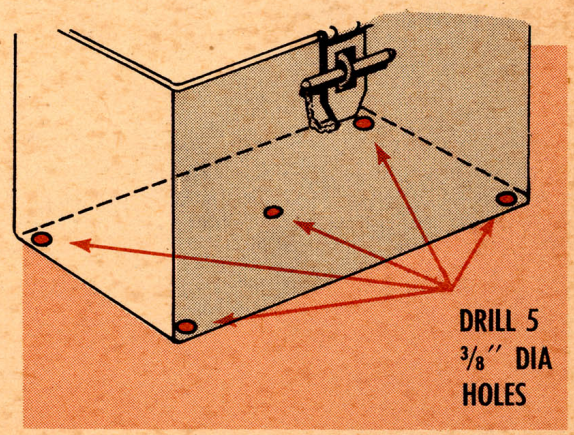
Dear Editor,

Long about a few weeks ago we got ourselves some of those new Model 424, 2½-ton GMC stake and platform commercial jobs. Real nice trucks, but we found that a lot of water got into the tool compartment, which is mounted along the frame on the right side of the truck. Can cause a lot of tools to rust.

So, what we did, and we'd like to pass it along, is to drill four ¼-in holes in all four bottom corners of the box. This lets the water drain out and keeps the tools nice and dry and comfortable.

SFC William Mohlen
District of Columbia National Guard

(Ed Note—Why not? You truckers have now been blessed with TB Ord 655 (3 Oct 56), which gives you the OK on drilling drain holes in your tool boxes. Like the TB says, tho, use five ⅜-in holes like below.)



RECOIL CHECK

Dear Editor,

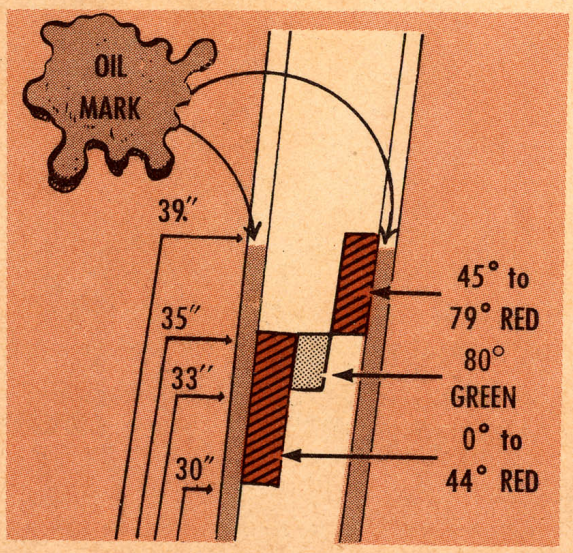
We've hit on an idea at the Yakima Firing Center which tells us at a glance how the recoil mechanisms on our 120-mm guns are operating.

You know the wiper on the front of the recoil mechanism body leaves a visible oil mark on the brass strips of the gun rail assembly each time the gun is fired. The mark shows how far the gun recoils.

Well...we kept three sets of figures in mind in coming up with our gimmick.

At 0° to 44° the minimum recoil is 30 inches and the maximum is 35. At 45° to 79° the minimum is 35 inches and the maximum is 39. And at 80° the minimum is 33 inches and the maximum is 35.

Then we measured ahead from the recoil mechanism body along the left brass strip while the gun was in battery ...and marked the gun rail at the 30, 33, 35 and 39-inch marks. Now here's where we may lose you unless you keep looking at the picture.



We then measured across the gun rail, dividing it in thirds. In the left third, we painted the area from the 30 to the 33 inch mark with red paint. In the middle third, we used green paint to fill in the area from the 33 to 35 inch mark. Then we went back to red paint to coat the right third area from the 35 to the 39 inch mark. While the paint was wet, we used a stick to write the elevation in the appropriate areas.

Now, when we want to measure the recoil, all we have to know is our elevation and where the oil mark is on the brass strips after firing. If the mark doesn't line up according to the elevation, we notify Ordnance. Of course, we first check the recoil oil and nitrogen pressure—like the TM says.

Mr. E. D. Christiansen
Yakima Firing Center, Wash.

(Ed Note—Neat, simple and safe. For you guys who fire the 90-mm gun, move your eyeballs down for a look at a chart that gives you figures so you can give your weapon a similar quick check. The measurements are different, but the idea is the same. Be sure the Old Man approves changing the OD paint on the gun rails to other colors.)

90mm Recoil		
Elevation	Minimum Recoil	Maximum Recoil
0° to 44°	40"	44"
45° to 79°	32"	36"
80°	26"	28"

Connie Rodd's BRIEFS

For the record

Keeping maintenance on the M33 FCS straight can't be done without noting the system serial number in the right place or the record book return sheets. Those sheets give the design boys a complete file on each system. But they don't mean a thing unless the serial number's there to identify which system the sheets are for.

Keep the change

Keep the change handy. That's what you'll need if you want that job of setting up Shop Sets, field maintenance, spare parts, storage, on body of 2½-ton cargo truck 6x6 to be a snap.

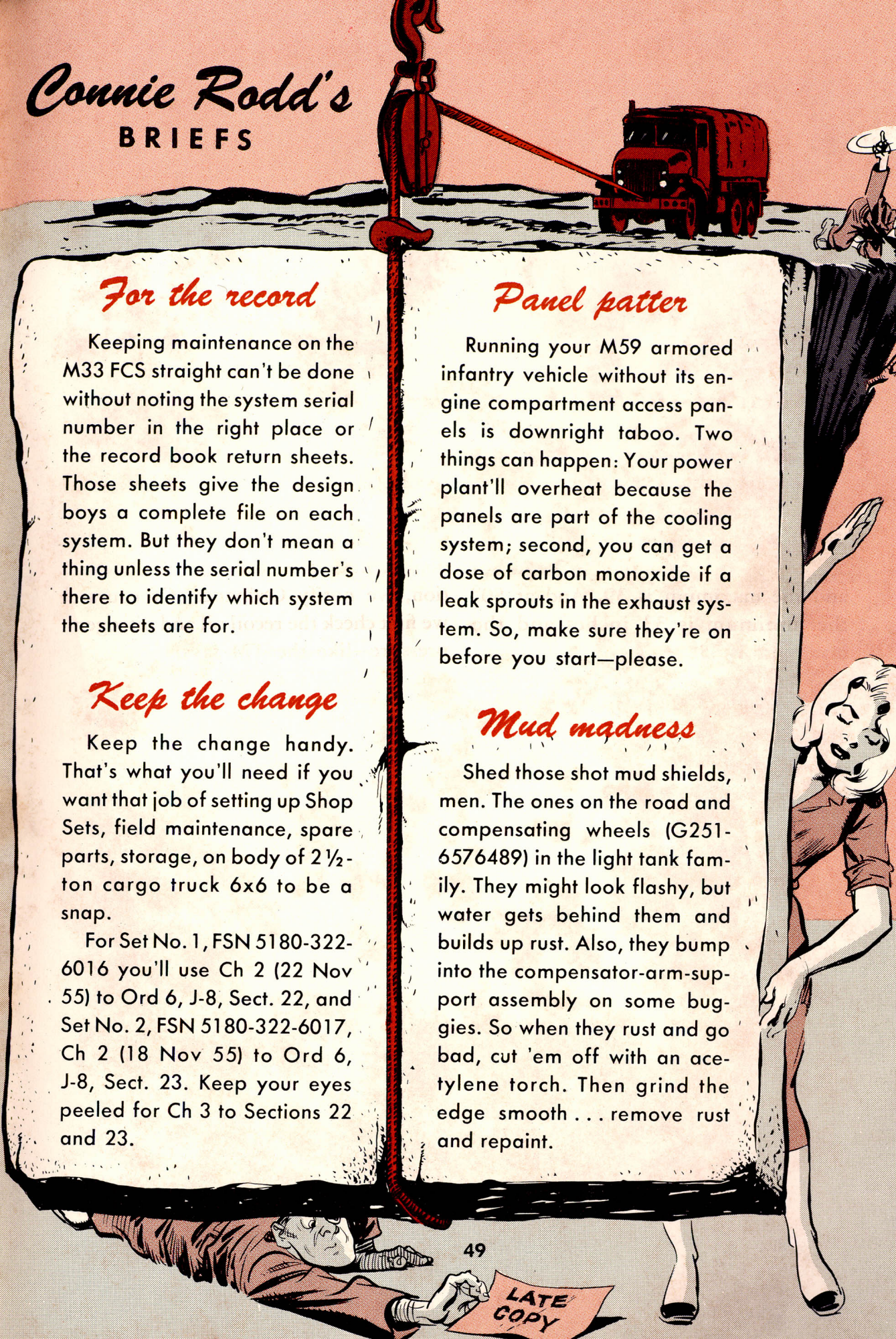
For Set No. 1, FSN 5180-322-6016 you'll use Ch 2 (22 Nov 55) to Ord 6, J-8, Sect. 22, and Set No. 2, FSN 5180-322-6017, Ch 2 (18 Nov 55) to Ord 6, J-8, Sect. 23. Keep your eyes peeled for Ch 3 to Sections 22 and 23.

Panel patter

Running your M59 armored infantry vehicle without its engine compartment access panels is downright taboo. Two things can happen: Your power plant'll overheat because the panels are part of the cooling system; second, you can get a dose of carbon monoxide if a leak sprouts in the exhaust system. So, make sure they're on before you start—please.

Mud madness

Shed those shot mud shields, men. The ones on the road and compensating wheels (G251-6576489) in the light tank family. They might look flashy, but water gets behind them and builds up rust. Also, they bump into the compensator-arm-support assembly on some buggies. So when they rust and go bad, cut 'em off with an acetylene torch. Then grind the edge smooth . . . remove rust and repaint.



Got any supplies or equipment damaged by improper shipment or packaging?? Report it on DD FORM 6...!! AR 700-58 (27 Jan 56) tells you how to fill it out and where to send it.